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12





T. K. STRATTON

T. K. STRATTON WINS WITH PETERS "DEWAR MATCH" .22's
Shooting in the Labor Day Rifle Matches at Zelenople, Pa., T. K. Stratton won the Grand Aggregate, 993 x 1000, 47 X's, shooting Dewar Match .22's. At Vandergrift, Pa., he was runner-up in the Aggregate with 791, 44 X's.

W. M. GOOCH WINS 4 FIRSTS, 2 SECONDS IN PISTOL MATCHES
In the Southwestern Pistol and Smallbore Rifle Matches, W. M. Gooch, shooting Peters, won the Thurman Randle Trophy with 199 x 200; the Camp Perry Police Match with 290 x 300; the Southwestern Individual Center Fire Championship with 825; the Southwestern Rapid Fire Aggregate with 1307; and placed in two other events.



C. E. WARD, Los Angeles Police, won Match No. 2 in the September 15th Los Angeles Police Matches with 289 x 300, shooting Peters Police Match.



SGT. JERRY SAMPERE

SGT. JERRY SAMPERE SCORES 98 x 100 WITH "POLICE MATCH"

At the recent Middletown, N. Y., Police Matches, Sgt. Jerry Sampere, Battery C, 156 F. A., New York National Guard, won the Individual event at 25 Yards, shooting Peters Police Match .38's with a score of 98 x 100.

DALLAS POLICE TEAM WIN SOUTHWESTERN TITLE

Shooting Peters Police Match in the Southwestern Pistol and Smallbore Rifle Matches, the Dallas Police Team won the National Match Course Event (Any Center Fire) with 1079.

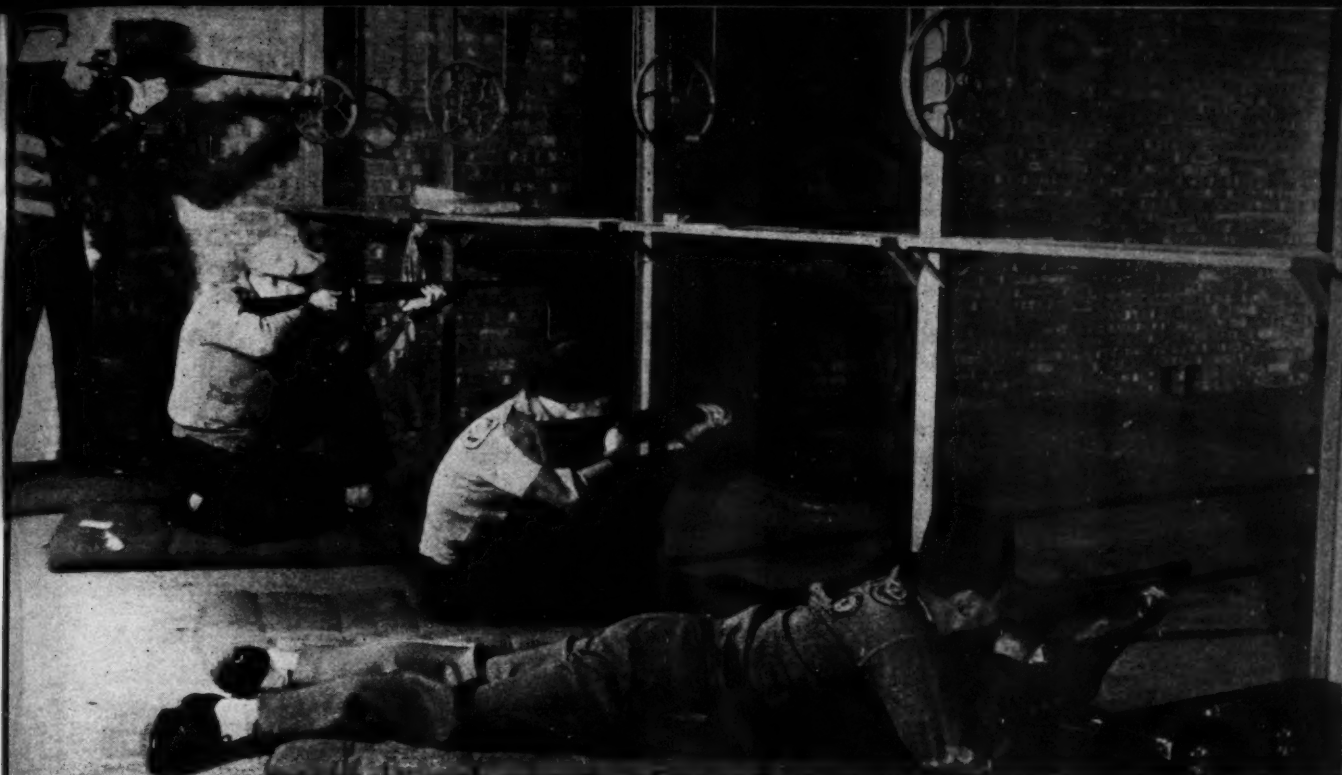
McCUBBIN GETS HIGH SCORES IN "SOUTHWESTERN"

J. F. McCubbin, shooting Peters Dewar Match .22's in the Southwestern Pistol and Smallbore Rifle Matches, won the Sears Roebuck Trophy with 400 x 400, 32 X's. He was also runner-up in the 50-Yard Special Match with 400 x 400, 23 X's; the Watson's Trophy Match, 397 x 400; and in the Two-Man Team Championship (with J. R. Martin) with 399 x 400, 18 X's.



E. E. JONES, Los Angeles Police, shooting in the September 16th Los Angeles Police Matches, won the first event with 291 x 300, shooting Peters.

PETERS DU PONT
PETERS CARTRIDGE DIVISION, Remington Arms Co., Inc., Bridgeport, Conn.
Dewar Match is Reg. U. S. Pat. Off.; Police Match is a trade mark of Peters Cartridge Division
MEMBER AMERICAN WILDLIFE INSTITUTE, "FOR A MORE ABUNDANT GAME SUPPLY"



LO-O-O-OAD—

THE GALLERY SEASON'S HERE

• And with the opening of the gallery season comes the announcement of the N. R. A. indoor postal program—giving pistol and rifle shooters a chance to load up their guns for nation-wide competition, without stepping off of their home ranges—a chance to win competition medals on their own stamping grounds.

• The N. R. A. home range matches were designed to bridge the gap between practice and competitive shooting—to give you the experience of shooting in a match “under pressure” without losing time from work or spending money to travel. You shoot your match before your own friends and regular shooting mates.

• There are different types of matches for all classes of shooters—rifle matches in all positions for the indoor rifleman; pistol matches of all types for the handgun devotee; tyro events for the newcomer in search of his first medal; and special events for juniors, women, collegians, etc.

• Plan now to win a medal this winter by shooting in these postal matches.

THE PHOTO

The photograph shows the range of the Commonwealth Edison Rifle and Revolver Club at 19 East 21st Street in Chicago. This will be the first full season for this eight firing-point range which was opened early last winter. It is open to all .22 caliber pistols and rifles.

TURN THE PAGE FOR THE COMPLETE PROGRAM

Program of Individual Matches

CONDUCTED BY THE NATIONAL RIFLE ASSOCIATION
1938-1939 GALLERY SEASON

December Matches

ENTRIES ACCEPTED UNTIL DEC. 15

1

Any Sights 50 Foot Rifle Match

50 shots—prone position

2

Metallic Sights 75 Foot Rifle Match

50 shots—prone position

3

Slow Fire 50 Foot Pistol Match

40 shots—slow fire



These three matches will give all shooters a chance to feel the thrills of competition before Christmas. Remember entries must be received before Dec. 15—fired targets must be postmarked before Dec. 25.

March Matches

ENTRIES ACCEPTED UNTIL MARCH 15

14

Women's Rifle Championship

50 shots prone, metallic sights, at 50 feet

One set of medals will be awarded to competitors having a tyro status and another set will be awarded to those not classified as tyros.

15

Any Sights 75 Foot Rifle Match

50 shots at 75 feet—prone

16

Military School Championship (entry 25¢)

10 shots prone, 10 sitting, 10 kneeling and 10 standing, metallic sights at 50 feet

Open only to military school undergraduates who are individual members of the N. R. A. or students of military schools affiliated with the N. R. A.

17

Tyro 50 Foot Pistol Match (entry 50¢)

40 shots—slow fire

18

Rapid Fire 20 Yard Pistol Match

40 shots at 20 yards

January Matches

ENTRIES ACCEPTED UNTIL JAN. 15

4

Standing Rifle Match

50 shots at 50 feet any sights—open to any .22 caliber "free rifle."

5

Tyro 50 Foot Rifle Match (entry 50¢)

50 shots, metallic sights, prone position. Separate awards are provided for each of the following classes: I. shooters using rifles valued at more than \$50.00 including all attachments; II. \$25.00 to \$50.00; III. less than \$25.00.

6

Tyro 20 Yard Pistol Match (entry 50¢)

40 shots—slow fire

7

Timed Fire 50 Foot Pistol Match

40 shots—timed fire

8

Slow Fire 20 Yard Pistol Match

40 shots—slow fire

April Matches

ENTRIES ACCEPTED UNTIL APRIL 15

19

Any Sights 50 Foot Rifle Championship

10 shots prone, 10 shots sitting, 10 shots kneeling and 10 shots standing

20

Metallic Sights 50 Foot Rifle Championship

10 shots prone, 10 shots sitting, 10 shots kneeling and 10 shots standing

21

Any Sights 75 Foot Championship

10 shots prone, 10 shots sitting, 10 shots kneeling and 10 shots standing

22

Junior Open Championship (entry 25¢)

10 shots prone, 10 shots sitting, 10 shots kneeling and 10 shots standing

Open to junior members and members of junior clubs affiliated with the N. R. A. Shooters classified according to the value of their equipment as in match No. 5.

February Matches

ENTRIES ACCEPTED UNTIL FEB. 15

9

Rapid Fire 50 Foot Pistol Match

40 shots—rapid fire

10

Timed Fire 20 Yard Pistol Match

40 shots—timed fire

11

Metallic Sights 50 Foot Rifle Match

50 shots—prone position

12

Women's Intercollegiate Championship

50 shots, prone, metallic sights at 50 feet. Open only to women undergraduates of any college or university affiliated with the N. R. A. and to undergraduate individual members of the Association. (Entries close Feb. 1.)

13

Tyro 75 Foot Rifle Match (entry 50¢)

50 shots, metallic sights, prone position. Same classification as for match No. 5.

More April Matches

23

50 Foot Pistol Championship

10 shots slow fire, 10 shots timed fire and 10 shots rapid fire all at 50 feet

24

20 Yard Pistol Championship

10 shots slow fire, 10 shots timed fire and 10 shots rapid fire, all at 20 yards

25

Scholastic Rifle Championship (entry 25¢)

50 shots, metallic sights at 50 feet

Open only to undergraduate high school students in their ninth to twelfth school years (excluding students of military schools). Duplicate awards are made to boys and to girls.

In addition to the matches listed above, the N. R. A. conducts special individual and team events for college, military and junior shooters as well as an interesting series of interclub team matches. Ask for additional details.

USE THE ENTRY BLANK IN THE BACK OF THIS MAGAZINE

THE AMERICAN RIFLEMAN

COMING

IN THE OFFING is an article on Pistol Shooting written by Frank Wyman of the N. R. A. Staff here at Headquarters. As is rather generally known, Wyman is an authority on the subject of pistol shooting, being himself an expert shot and a fine coach. The article will be written around the needs of the tyro and others who wish to improve their shooting, and will deal with some of the finer points of pistol shooting which are observed by the expert but usually neglected by others.

H. G. Enterline, of Long Island, New York, has been very successful in teaching his son to shoot at a very early age. Some time ago he wrote for us an account of this teaching, and we now have his story scheduled for an early issue. The methods and procedure which brought such satisfactory results for Mr. Enterline should be equally successful with other bright youngsters, and the story should be interesting to all parents who have sons they wish to bring up in the way they should go.

An article which provides food for thought has been sent us by H. V. Stent, who lives up in British Columbia. Mr. Stent's plea is for more attention to the "average" shooter—the man who is not an expert in any branch of the sport, but who just likes to shoot, with simple equipment, and "who is the biggest customer for both guns and magazines." While not all of our readers are going to see eye to eye with Mr. Stent, his article certainly deserves consideration. And there may be something to his point of view after all.

We wish to call our readers' attention to the fact that our December issue may be a few days late, due to the way in which the week-ends break into the printing schedule. Should any magazines not be received after four or five days' delay, we ask that the matter be brought to our attention.

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CONTENTS

COVER PHOTO

Courtesy Algernon L. Gehrels, San Antonio, Texas. Picture taken in hill country north of San Antonio, and shows John A. Gehrels and Hugo Hoegenauer on their annual deer hunt last fall.

POWDER SMOKE	2
THE NEW JOHNSON RIFLE By F. C. NESS	3
HOW GUNS ARE MADE By A. P. CURTIS	8
A THEORY OF RECOIL By ROBERT H. S. HUGHES AND HOWES BODFISH, M.S.	10
HOME GUNSMITHING By "PROFESSIONAL"	12
PISTOLEERING FOR GAME By BARRY STORM	13
DEPRESSION DAYS By "COUNTRY EDITOR"	17
BLACK-POWDER RESIDUE By P. H. MANLY	18
NEW MEXICAN QUAIL By CHARLES ASKINS	19
MY FIRST GUN By MARK B. BURNHAM	23
WINNERS OF STATE MEDALS IN N.R.A. .30-CALIBER MATCHES	26
A GOOD SCOPE OUTFIT By BYRON E. COTTRELL	28
PISTOL-PERMIT LAWS	29
OVER THE NEWS DESK	38
DOPE BAG	44
ARMS CHEST	49

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POWDER SMOKE

An Important Responsibility

AT this time of the year our thoughts naturally turn to the hunting season; to life out under the open sky in field and forest, with rifle and shotgun. We think of the beauties of nature; of the freedom and joy of action; of the thrill of the chase, and the pride in a trophy fairly won. The hunting season is indeed a big thing in the lives of many outdoorsmen, who return from field or forest with renewed health and vigor, and happy memories which linger through the years.

But there is another side to the picture. In the wake of every hunting season follows a record of human lives lost and serious bodily injury inflicted to hunters in the game fields, as a result of ignorance and carelessness in the use of firearms. And following this comes a reaction against firearms among many of our citizens, with demands that guns be abolished entirely or their use drastically restricted.

We, ourselves, as intelligent and understanding users of firearms, know that the fault does not lie with the gun, but with the man behind the gun; and that guns properly handled cause no accidents. But accidents go right on occurring in the hunting fields year after year, with the blame always on the guns.

A special knowledge of an important subject carries with it a definite responsibility to those of our fellow men who may be lacking in such knowledge and yet have need for it. In our case this applies to all persons who come into possession of firearms without proper instruction in their handling and use; and it is our duty, individually and collectively, to do all we can in our own communities to teach the lessons of safe gun-handling.

It has been very gratifying in recent years to see efforts along these lines taking shape here and there in the country, sponsored by sportsmen's and shooters' organizations, and even in some cases by schools fortunate enough to have at their head outdoor-loving men with

breadth of view and vision. The latest activity of this kind to come to our attention is that of the Morris Rifle Club, of Morris, Minnesota, and we commend the members of this fine organization for their energetic and constructive work. May it grow in scope and importance with the passing years!

But this is only the beginning. Every shooters' organization, of whatever kind, should carry on, year in and year out as a regular part of its activity, the work of teaching all persons in the community who use guns *how* to use them. This should not be done half-heartedly, as a thankless task to be shirked at every turn, but whole-heartedly and constructively. Those who have tried it have found it most interesting, and rich in results obtained. For it not only lessens the percentage of gun accidents, and prejudice against guns, but it gives the sponsoring organization and its individual members a new standing and importance in the community.

So include with your shooting activities the business of teaching others to shoot with safety. Not only those who may be interested in becoming members of your club, but all persons you know who use guns without a proper knowledge of them. Some of them—perhaps many—will not be interested in your kind of shooting, but will still like to shoot a gun of some kind, in some way. These, many of them lone hands, are often the ones who most need—and appreciate—a little friendly attention.

And above all, don't forget the youngsters. Every normal boy instinctively loves a gun, and most of them sooner or later—with or without parental blessing—get their hands on guns of some kind. So we shooters must do our bit to teach the young generation what they need to know about these guns that fascinate them so much, to the end that lives may be safeguarded and the shooting game continue to grow unhampered by prejudice and misunderstanding.

THE AMERICAN RIFLEMAN

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THE NEW JOHNSON RIFLE

By F. C. NESS

FOR YEARS HUNTERS have enquired as to the probability of our some day having an autoloading sporting rifle adapted for some powerful cartridge like the .30-'06. The answer has always been discouraging because heretofore even the possibility of such a weapon being developed and becoming commercially available has been extremely remote. One or two of the more enterprising advocates of the autoloading sporting rifle have attacked the problem by some such expediency as converting the .35-caliber Remington autoloading rifle to the .300 Savage caliber, but such attempted solutions have not proven entirely satisfactory, if indeed successful at all.

But now, at long last, I am happy to state that the picture is changed; for, some time in 1939—probably not more than a year from this month—autoloading sporting rifles will be on the market in .30-'06 and .270-Winchester calibers. I refer to the new Johnson Semi-automatic rifle.

The barrels in this rifle will be interchangeable in the two above calibers, and in any other popular caliber whose cartridge has exactly the same headspace-length. The ease and simplicity with which barrels can be removed and replaced in this Johnson rifle promises other advantages, such as easy home-replacement of worn-out barrels, and the interchangeable use in the same gun of barrels of different lengths, twists, throats, and groove-diameters, for different bullets, loads, and shooting purposes.

I had never, as a sportsman, taken any personal interest in powerful autoloading rifles until I had seen, handled, and fired Melvin Johnson's first creation, exactly two years ago. From my first actual experience with it, I felt instinctively that Johnson's basic design was the only practical one for the American sportsman. Its inherent simplicity all the way through should have a strong appeal for every unbiased engineer, mechanic, gun-lover, and shooter.

Barrels on this Johnson rifle have been removed and replaced in 5 seconds. The entire gun has been reduced to its components in a minute, and reassembled in 1½ minutes. The barrel-and-bolt mechanism has been replaced in the gun in 20 seconds. The extractor has been removed and replaced in 8 seconds. The rifle can be taken apart and reassembled without special tools. The bolt handle provides the screw-driver for the stock screws, and the firing pin serves as a drift for all pins.

While serving as a Lieutenant (he is now Captain) in the Marine Corps Reserve, Mr. Johnson became deeply interested in machine guns of all types, and made an exhaustive study of the mechanics of autoloading firearms of every description, ancient and modern. This investigation served to direct his energy toward overcoming faults and deficiencies which, he discovered, were shared alike by existing autoloading rifles and light machine guns. That was a big order, but Mr. Johnson met with remarkable success, and by early fall of 1936 he had the pilot model of the Johnson Semi-automatic rifle performing satisfactorily on the firing line.



When Mr. Johnson brought the rifle down to show to me, I was somewhat amazed, and openly skeptical. Fundamentally, it was a Mauser '98 action, turning-bolt and all. It could be manually operated, and appeared safe enough; but it was too doggone simple to inspire confidence in its functional ability as an autoloader. Naturally, Mel was well equipped with such impressive phrases as "retarded rotation," "residual pressure," etc., in explanation of the infallible functioning of his mechanism. We ended by rounding up samples of various different lots of old and new Service ammunition, and all the different .30-'06 commercial loads we had on hand, and trying the rifle out in the nearest gravel-pit.

The thing worked, and shot amazingly well on the target; and it functioned with all the different loads, throwing the empty cases fifty feet to the side. The few failures in feeding appeared to be directly traceable to the make-shift store-bought box magazine which Mel was using in this pilot model. He was also using Model 1903 Springfield barrels at that time, and changed to another in the middle of the test. The change appeared to take less than ten seconds. In the same lapse of time he dismounted the action, and I could not help being impressed with its simplicity.

Since then, five more models have been built, and fired extensively. Box magazines of B.A.R. type have been designed and made expressly for the Johnson rifle, and recently a clip-loading, fixed, rotary magazine has been designed for regular production. Both Remington and M 1917 barrels have been used for much firing, as well as Winchester barrels, which are likewise adaptable to the Johnson rifle. Tooling-up has been completed, and actual manufacture may be under way by the time this article is published. At any rate, I have been authorized to state that regular production arms of this model will be commercially available some time in 1939. In fact right now custom-built rifles in .30-'06 and .270 caliber may be purchased on special order from Johnson Automatics Trust, 84 State Street, Boston, Massachusetts.

The five rifles already in use are all of heavy military type, weighing from 9.2 to 9.6 pounds. The production sporting model will have a shorter barrel and a trimmer stock, and will weigh somewhat less. Custom-built sporters can be easily made in $8\frac{3}{4}$ pounds weight, or lighter. As a result of the barrel-assembly design, any pet sporting barrel already in the possession of the shooter can be installed in the Johnson Semi-automatic Sporter. Also one can have this barrel, or any other similar barrel, fitted for interchangeable use in the same rifle at nominal cost.

Those who are willing to pay the price, and care to place their orders now, can have a custom-built sporter in .30-'06 or .270 Winchester caliber in less than 3 months' time. Eventually it may be possible to use in this rifle the .30-'06 case necked-down to .25 caliber and .22 caliber but retaining the original headspace-length, and have interchangeable barrels in these calibers for the same Johnson rifle. The rifle would then be adapted to handle .22, .25, .27, and .30-caliber bullets, in as many barrels.

With the custom-built Sporters now available on special order, fixed 5 or 10-shot clip-loading magazines, or detachable box magazines holding 3, 4, 5, or 8 rounds, can be furnished. Any type of receiver sight is available, but only the Johnson one-piece type of sporting bead or military front sight can be furnished. The trigger can be supplied with any weight of pull from $1\frac{1}{2}$ to 5 pounds. The stock dimensions will be to the customer's specifications. Any light or medium-weight sporting or military barrel can be had, and it can be fitted for interchangeable use, in any length between 20 and 26 inches.

The feature which makes practicable this interchangeability of barrels is the method of barrel support employed in the Johnson rifle. There is a bushing or heavy barrel-ring with an integral guide lug about 9 inches from the breech. Another similar guide bushing forms the barrel breech, and contains the seats for the locking lugs. Providing that outside dimensions and lug-seat requirements are maintained, these two guide bushings can be used on any military or sporting-type barrel of nearly similar size, regardless of moderate differences in contour.

The Johnson bolt turns through only 20° to lock and unlock. For manual operation there is a short, straight, knoblike handle on the bolt, which serves also as a safety lug. Thus a pull on the handle quickly clears jams.

Another feature of interest to sportsmen is the sear-engagement design which provides a friction or pressure contact of the sear against the bottom of the hammer, without recesses or notches, and which for hammer-release requires merely the straight sliding of these two flat contact surfaces. Flat-surface friction and trigger-spring tension are the only pull resistants, resulting in a fairly long but unusually light trigger pull. This trigger mechanism is, furthermore, a most reliable and safe one. We have not been able to jar it off by bouncing or forcibly striking the gun, butt first, against a solid wooden bench.

I have singled out the last two action features because of their significance to sportsmen. If the reader has followed me he will now appreciate the advantages of the Johnson rifle over the conventional bolt-action rifle, which advantages still obtain even when the autoloader is manually operated. First, its turn-bolt action can be operated more easily and faster, and it has a better standard trigger pull for field shooting. Second, the constant pressure of the strong action-spring always keeps the bolt closed. When, in the field, brush or a bump slightly raises the bolt handle of an ordinary rifle, a misfire results unless the matter is discovered and corrected before the next shot is fired. This not uncommon occurrence is sometimes obviated by the employment of various devices, but the Johnson action-spring does away with all this.

The Johnson bolt is a husky one, $\frac{7}{8}$ -inch in diameter and 5 inches long. In place of the conventional two lugs, it has eight locking lugs. These are evenly spaced in nine segments around the head of the bolt, the ninth lug being omitted to accommodate the extractor, in its slot on the right-hand side. On the opposite side of the bolt is the slot for the ejector, which latter is unusually rugged. The extractor is flush with the bolt surface, and rotates with it, there being no slip-collar. The short knob-like operating handle locks the extractor in place. This handle has a locking spindle for easy removal and replacement. Its right-angled arm, seated in the extractor slot, ends in a screw-driver blade for removing the stock screws in dismounting the rifle. The camming arm and the camming slot are sloped at an angle of nearly 40° . The rear end of the bolt is linked to a strut $8\frac{1}{2}$ inches long, which transmits the pressure of the action-spring (in the buttstock) to the bolt. Guided by the receiver, the path of the bolt is in a straight line, forward and back. Directly behind the bolt is a cushioned buffer-plate which serves as the bolt stop. This is held by a lock-plate which fits into slots in the receiver, and is in turn locked by the tang-cover lock. This triple arrangement effectively closes the rear end of the receiver, and protects the shooter against escaping gas far better than do conventional actions.

When the bolt is rotated 20° , the eight circumferential locking lugs on its forward end align with corresponding channels in a cylindrical block on the breech of the barrel, thus unlocking the bolt. This block, or barrel-bushing,



is one of the two barrel guides and supports previously mentioned. To facilitate manufacture, this lug-seat and barrel-guide block is a separate piece, securely screwed to the barrel exactly like the receiver hood of a conventional bolt-action rifle. The eight abutments between the lug channels become locking shoulders when the bolt is rotated to the closed position. These locking shoulders are very strong, they being $1\frac{1}{2}$ inches long.

The Johnson is a recoil-operated action. The barrel recoils only about $\frac{3}{8}$ -inch, the bolt being locked to it until the camming slot and arm have rotated through 20° . The barrel stop in the forward part of the receiver now permits the bolt to continue rearward free of the barrel, carrying the fired case with it. The ejector stops the case, and the bolt continues back to cock the hammer and compress the action-spring, it finally being stopped by the buffer-plate. The action-spring then returns the bolt, which pushes ahead of it the topmost cartridge in the magazine. In the meantime the barrel-return spring, located in the forward part of the receiver, has brought the barrel forward to its normal position, and the returning bolt shoves the cartridge into the chamber, and the cam rotates the bolt to locked position. The time required for all this is $\frac{1}{10}$ th second, indicating a possible rate of fire of 600 shots per minute. The normal rate of effectively aimed semi-automatic fire is one shot per second.

When the extracted case is abruptly stopped in its rearward travel by striking the ejector, it is tipped to the right and slightly upward. At the edge of the ejection port it collides with a lip on the receiver, which deflects it downward and slightly forward. The result is that the cases pile up to the right and about $4\frac{1}{2}$ feet from the gun in standing shooting, and about 2 feet from the gun when shooting prone. Before this deflector was incorporated in the receiver, the cases were thrown 50 feet to the right, which of course was all right for field shooting, but not so good on the firing line of a rifle range.

The extractor claw on the Johnson rifle is relatively shallow, but broad and strong as compared with ring-held extractors on conventional bolt-action rifles. In practical tests it has proven to be quite positive in its ability to pull fired cases from the chamber. Primary extraction is aided considerably by the jars and vibration of the rifle mechanism. As the bolt is unlocked from the barrel it moves back rather smartly, and pulls the fired case with it just as it receives a tap from the locking cam. Also, according to calculation, the light pressure remaining in the chamber at the instant of extraction is just enough to accelerate the operation with some back thrust on the head of the case, though the pressure is not enough to cause case-expansion.

Unlike some autoloading mechanisms, the Johnson action is not dependent upon perfect mechanical timing for its functioning. There is nothing haphazard about the timing in the Johnson rifle, but this is more or less automatically

taken care of by a fortunate combination of circumstances rather than through mechanical perfection; and apparently it is self-compensating. While the locking and unlocking functions are purely mechanical, chamber pressures directly control the timing. When pressures are too high, the friction surfaces become "frozen" together, and remain so until pressures have fallen to a point that will permit the bolt to turn and disengage the lugs. The bullet has emerged from the muzzle well before this occurs. The muzzle blast adds additional impetus to the recoil, and in a barrel of average length this comes at the right time to boost retraction and aid extraction. (See cut below.)

When the bullet leaves the muzzle, the barrel, locked to the action, has moved back a maximum of about $\frac{1}{16}$ -inch, and the chamber pressure is about 12,000 pounds. When the bullet is two feet from the muzzle the action-movement has reached $\frac{3}{16}$ -inch and the pressure has dropped to 5,000 pounds. The bolt begins to unlock at this point. By the time the bullet is four or five feet from the muzzle the action-travel is $\frac{3}{8}$ -inch,* and the remaining ("residual") pressure is not over 2,000 pounds. The unlocking of the bolt is now completed. This progressive pressure reduction and action movement obtains with different standard loads. Radical departures from normal pressures and velocities could, of course, be accommodated by making certain adjustments. However, the standard rifle seems to be quite flexible in adapting its functioning to a wide range of pressures and velocities. It has worked remarkably well with badly worn bores—oversize to the gas-leaking stage, and with low-power .30-'06 ammunition giving pressures under 40,000 pounds; and yet at the same time it fired and ejected a proof cartridge which developed about 70,000 pounds pressure.

The arm has been designed to provide adequate safety for the shooter, with strength sufficient to safely handle pressures 100% higher than those normally encountered in firing standard ammunition. Functionally it is safe, because it cannot be fired until the bolt is fully locked. Just forward of the trigger guard is a right-hand safety, with a grooved thumb-lever which turns laterally and engages a notch in the sear arm. The $9\frac{1}{2}$ -inch forward extension of the 20-inch receiver is a ventilated sleeve which keeps the shooter's hands from contact with the barrel. The fired cases are ejected away from the shooter; even from the vicinity of a southpaw's face. Recoil effect upon the shooter's body is appreciably less than with the M 1903 Springfield and the same loads. I have seen Mel Johnson fire this rifle in one hand, like a pistol, using M1 Service ammunition. The rifle cannot be fired unless the trigger is released after each shot.

Because of the full-floating, unrestricted method of supporting the barrel in the Johnson rifle, I would expect this rifle to be relatively insensitive to moderate variations in loads and changes in holding methods. The two barrel bushings fit the receiver slidably about 10 inches apart,

Spark photograph of Johnson rifle taken during test at Massachusetts Institute of Technology. Bullet is leaving muzzle but bolt is still locked and barrel has not moved



and bottom lugs on these bushings slide in channels in the receiver. Therefore the rifle should have a fairly constant zero. When we fired it there was no appreciable lateral jump of the muzzle, as is the case with other military rifles—an important advantage in semi-automatic fire. The maximum recoil movement is not over $\frac{3}{16}$ -inch, and the barrel hardly moves until the bullet leaves the muzzle. Then it moves $\frac{3}{16}$ -inch before the bolt begins to open. These observations refer to a normal barrel-length of 24 inches. The Johnson rifle also functions as reliably with a 20-inch barrel without any special adjustment, although the muzzle blast is materially greater. This suggests the practicability of employing two interchangeable barrels of different lengths on the same Johnson Sporter, one for dense cover and the other for open fields and long-range shooting.

The accuracy of the Johnson rifle is substantially the same as that of the Model 1903 Springfield. Our only target shooting was at short range from the offhand position, but the results compared favorably with those obtained under similar conditions with the Springfield. The inventor equalled his usual offhand score at 200 yards, when firing the Johnson rifle at the rate of a shot in 2 seconds. He has a record of 5 shots in a 7-inch group at 200 yards fired in 5 seconds, and a 10-inch group of 10 shots fired in 14 seconds. These two records were made with the third Johnson rifle, which was equipped with the light 22-inch Remington sporting barrel. The first Johnson rifle which we fired had a Springfield barrel. This one was fired by an expert shooter with 1918 (war-time) ammunition, and made 25 consecutive bullseyes on the 10-inch "A" target at 300 yards. At 500 yards 20 consecutive bullseyes were made by the same shooter with the same ammunition on the 20-inch "B" target. At both ranges several 3-shot strings were fired at the rate of one shot in two seconds, and resulted in 3 bullseyes per string at both ranges.

As to functioning, these rifles have what I consider a truly remarkable record. In impartial tests conducted by different persons in various different places, they have put on a fine performance under the most severe conditions, including excessively extended firing, and use with defective ammunition, abnormally loose barrels, and intentionally sloppy assembly. In several of these tests the Johnson autoloader has outclassed the performance of every other shoulder arm in existence.

I will cite a dozen specific performances already recorded to the credit of the Johnson rifle: (1) It fired 300 rounds of war-time ammunition without a single malfunction. (2) It fired 1300 rounds of low-pressure (39,000 pounds) loads with only 2 rounds short of perfection (1 failure to feed, ascribed to a defective magazine, and 1 failure to eject ascribed to a deficient load). (3) It fired 247 consecutive rounds of excessively soft ammunition. (4) It fired 2400 consecutive rounds in $1\frac{1}{2}$ hours of elapsed time, at the rate of from 30 to 100 shots per minute, after the action had been previously fouled by firing 500 rounds, without cleaning or oiling. (5) Out of nearly 4000 rounds (3936) the functioning was 98% perfect, and there was no mechanical failure. (6) After 500 consecutive rounds, practically 900 rounds (896) were fired, with only one failure to feed; and 1000 additional rounds were fired with only three failures to feed. (7) After being fouled by the firing of 2100 rounds, and heated by firing 1600 continuous rounds, 800 rounds were fired in less than 20 minutes from prone and sitting, by one man who experienced no fatigue. (8) After firing 2122 rounds, without cleaning or oiling, 225 rounds more were fired at the rate of from 40 to 50 shots per minute, without any kind of failure. (9) After the firing of 2347 rounds, an additional 104

rounds were fired at the rate of 85 shots per minute at various elevations up to 85° . (10) The rifle extracted a pre-ignited load (raised to ignition temperature in two minutes by barrel heat, resulting from 2400 continuous rounds) and ejected a proof cartridge that developed more than 70,000 pounds. (11) It fired and extracted 24 consecutive rounds of ammunition that had been covered with sand. (12) It fired and extracted 8 consecutive rounds after sand had been poured through the entire action.

Although the Johnson Semi-automatic rifle is a short-recoil autoloader, the travel-distance of its barrel recoil is apparently not critical. The maximum barrel recoil has been varied as much as $\frac{1}{8}$ -inch or 28.5% without altering the functioning. Headspace has been deliberately increased by as much as .025-inch without stopping the action. Bolt and cam clearance has been increased from a snug .002-inch minimum to as much as .018-inch without apparent effect upon the functioning. In a demonstration the parts of one rifle, which had just completed 3000 rounds of intense firing, were assembled in another rifle, and the mechanism functioned perfectly with both barrels. No special lubrication is required in the action. None is required on the cartridge or in the chamber. Ordinary care and cleaning of the rifle are all that is necessary. The test performances, reported above, prove that it is capable of functioning without any cleaning or oiling. When cases are lightly lubricated the action functions without any mechanical extractor, proving conclusively the actual presence of "residual pressure."

The only point which remains unproven is the actual production status of the rifle. However, I am not particularly concerned about this because the few and simple component parts of the Johnson rifle, together with the tolerances permitted, will adapt it to quantity production. For this rifle has fewer parts by nearly a score than the Model 1903 Springfield, and requires no more elaborate tooling-up.

While I was finishing this article Mel Johnson brought down his fifth rifle for some further shooting on my part. However, I was leaving for Camp Perry, and could not give this rifle any attention. The pictures shown herewith are of the first Johnson rifle, which, however, is substantially the same as the latest model. The front sight, firing-pin, and firing-pin key have been modified in the newest model. The extractor has been made stronger, and the buttstock has been changed somewhat. The box magazine shown has been modified. The new one does not extend below the stock. The ideal military weight is considered to be 9 pounds.

In conclusion, I would point out a few probable objections to this autoloading rifle. The length of the .30-'06 case and of the long breech bushing together imply a long jump of the cartridge from the magazine to the chamber, which is not a virtue in any rifle. The homeliness of its abnormally long receiver is an inherent feature of the Johnson design. Many gunlovers may object, on esthetic grounds, to that essential barrel sleeve. All powerful autoloaders are essentially ugly and defeat any stocker's attempt at beautification. Certain light-weight fans may object to the essential weight of such rifles as this one, whose minimum limit is probably $8\frac{1}{2}$ pounds. A minor technical imperfection in the present design is the engagement of the sear arm by the safety, whereas in an ideal arrangement the safety would directly block the hammer or striker.

Finally, we face the possibility of legal restrictions in some states which, eventually, may limit all sporting repeaters to three shots. While a three-shot rifle capacity should be adequate for practically any contingency which might be encountered in the game field, such a limitation

(Continued on page 37)

HOW GUNS ARE MADE

By A. P. CURTIS

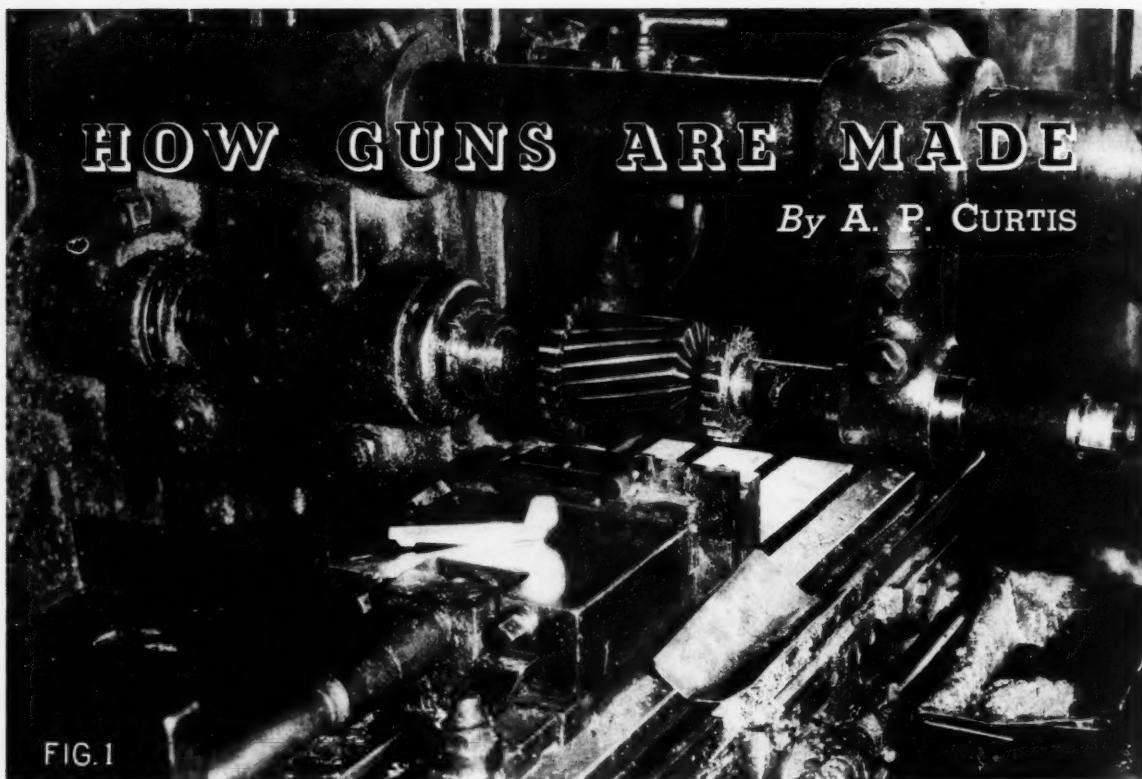


FIG. 1

IMPRESSIONS GAINED BY LAYMEN when visiting different American factories have been published in sporting magazines, but in this series of articles will be given the inside "dope" on the making of the major units entering into the construction of firearms, together with illustrations of the machines and tools that do the work, and a description of their operation, based not upon the methods of just one factory, but of many, and covering both rifles and shotguns. In other words, a "mixed bag."

In these articles the parts for machine-made firearms only will be considered. However, from this one can visualize the making of our hand-made arms—those in the higher-priced brackets in which the machined parts are fitted and finished by hand by skilled gunsmiths.

The series of major operations necessary to convert raw materials into firearms units and finished arms are more interesting and educational when actually seen than can possibly be any description of them, but I believe that a detailed account by one who has spent a lifetime in supervising the manufacture of rifles, shotguns, and revolvers, will be sufficiently interesting and instructive to repay all gun-lovers for following this series through to the end.

Probably the machine tool that is depended upon the most in the process of bringing the different parts of guns to finished size and contour, is the milling machine, both heavy-duty, or power (power feed), and hand millers (hand feed). Although the first "miller" was invented primarily for gun-part fabricating, these machines were soon utilized in all metal-fabricating industries, where they proved invaluable.

The first miller was invented in 1818 by Eli Whitney, who also invented the cotton gin in 1793—a machine that put the South on the map as the greatest cotton-growing section of the world, and which in the short space of seven years enabled our exports of cotton to increase from 189,000 pounds a year to 17,790,000 pounds, while today we supply seven-eighths of the world's needs.

Eli Whitney began firearm manufacturing in 1798, having a contract to supply our Government with 10,000 army muskets; and his plant was located a scant two miles from where I am dictating this article—in an outlying district of New Haven now known as Whitneyville. He built his armory, and a dam to impound water for furnishing power. One of the first things he did was to devise a milling machine to remove surplus metal from raw material so as to expedite production of musket parts over the then-prevailing slow, tedious, method of blacksmithing to a close contour and then bringing the parts to final size and shape by the use of rasps and files. This original power milling machine is now preserved in the New York Museum of Science and Industry, at Rockefeller Center, New York City.

Not only was Whitney the father of milling machines, but he was also the inventor (1798) of the principle of interchangeable firearms units, a manufacturing method still in use not only in gun-making but in other industries as well, from the manufacture of wrist watches to the making of airplanes. And, in what was locally known as the "water shop" (because, like the operators of the Ithaca Gun Company, Whitney was wise enough to use inexpensive water power which, until then, had been considered the thing only for operating back-woods saw and grist mills), the Whitney Armory flourished until 1888, when it was leased to the Winchester Repeating Arms Company.

Power Milling

The raw materials from which gun parts are made are either in the form of bars of round or rectangular-shaped steel, or of steel drop forgings or semi-steel castings. If in bars, sections are first cut off to rough lengths, thus preparing them for easy handling in the several milling and metal-removing operations that follow.

With drop-forged or cast raw materials this preliminary cutting operation is not necessary, as both the forgings and castings are made in size and contour similar to the desired finished shape, with enough metal left on at all points to allow the rough surfaces to be machined off smooth in the several milling operations.

Figure 1 is a close-up view of a power milling machine set up for milling the locking bolt of a "pump" gun. The milled part has been removed from the vice jaws, and placed on top of the milling vice to show its contour. It will be observed that this "gang" of four milling cutters is so designed as to give the desired finished shape to one side of the locking-bolt forging. The long cutter, second from the left, has its teeth cut spirally to give a shearing cut, and thus prevent a rough or wavy surface on the work.

Power millers are set up in batteries, and they automatically feed, across the bottom of the rotating cutters, the table and vice with the work-holding jaws of the latter containing the part to be milled. An operator can run anywhere from 8 to 12 machines, depending upon the width of the cuts. His duty is to load the several vices, throw in the automatic feed, and remove the part as soon as it has been cut or milled and the table automatically returned. As the actual cutting is done in a stream of oil that not only acts as a lubricant but also as a coolant, the chips or slivers of removed metal have to be washed out of the holding jaws to prevent marring the freshly-machined surfaces of the next part to be milled; and the operator also performs this operation before inserting a new forging.

The oil and chips collect in a trough, from which the oil is pumped back into the oil line, to again serve the cutting tools.

Oil or special cutting compounds are used in all metal-cutting operations. In the picture, note the oil-coated chips of steel (white dots) adhering to parts of the machine in the vicinity of the cutters.

The usual procedure is to first make a base cut that is used as a locating and gauging point for all subsequent operations, such as milling, drilling, broaching, etc.

Hand Milling

Hand milling is similar to power milling except that the work is fed to the cutter by hand instead of by power, these machines being used only for the lighter cuts. Each operator has only one machine to attend to. Oil dripping from a reservoir upon the cutter is sufficient for these lighter cuts, and the free chips are wiped from the vice jaws instead of being washed out with a stream of oil.

Figure 2 is a close-up view of a hand milling machine, showing the cutter, vice, work-holding jaws, and a Marlin .22-automatic rifle breech bolt with the extractor slot cut.

There are more than 350 separate and distinct metal-removing and bench operations on a single-shot bolt-action rifle, not to mention the washing of parts in hot soda water between operations, and moving them from section to section of the plant, or to other departments.

Interchangeability of parts is obtained by the use of suitable gauges with which to check each metal-removing operation, whether it be a contour cut or a reamed, counter-bored, or threaded hole, etc.

NOTE: This article must not be reprinted without permission of the Author. Part 2 of this series will cover the drilling, reaming, etc., of holes, and the blanking, piercing, forming, etc., of thin sheet steel.—Editor.

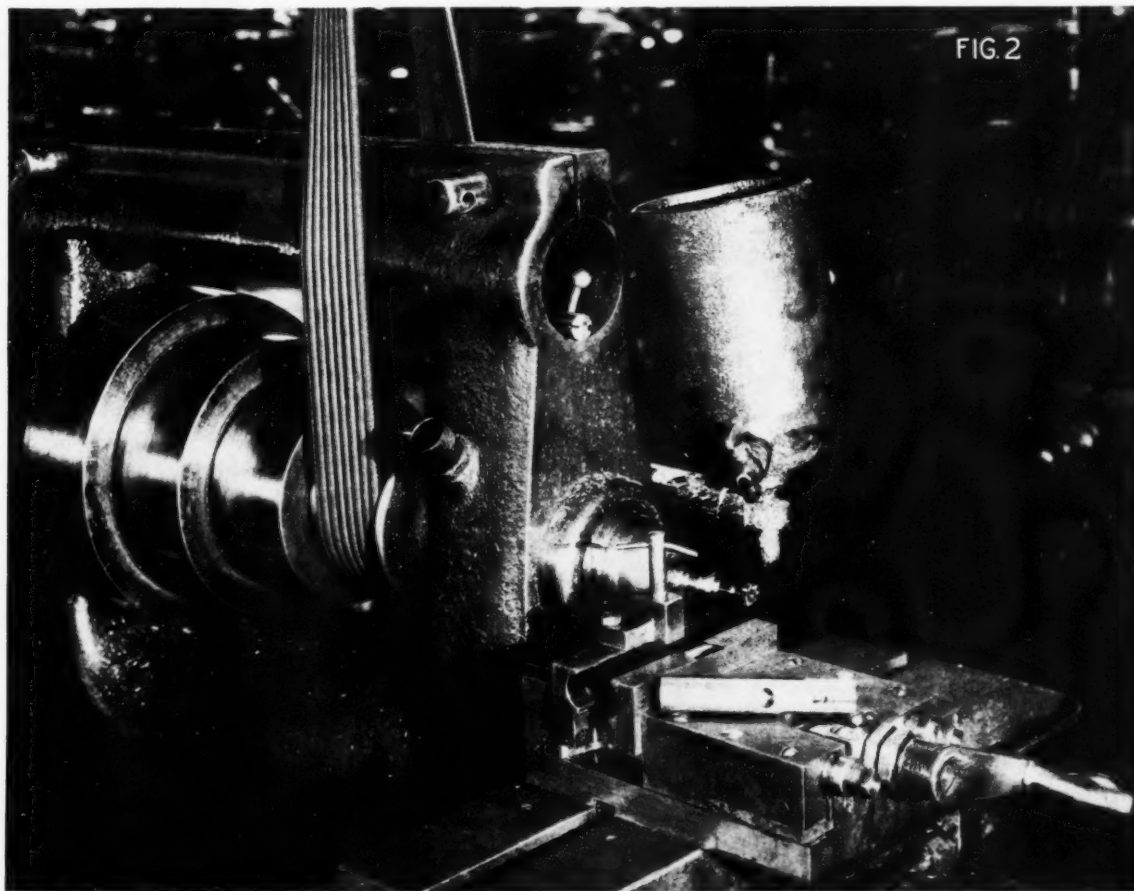


FIG. 2

A THEORY OF RECOIL

By ROBERT H. S. HUGHES and HOWES BODFISH, M.S.

THE CLASSICAL STATEMENT as to the amount of energy of recoil of a gun after firing is that it is equal to the total energy of the bullet at muzzle velocity. This article avers:

That this statement is not in accord with the observed recoil energy.

That the actual recoil is divided into two distinct parts, (a), recoil before ejection of the projectile and (b), recoil after ejection.

That recoil (a) is that required to maintain the center of gravity of the system consisting of the gun, projectile, powder and powder products constant during the motion of the projectile through the bore.

That the remainder of the recoil (b) (and major portion), is due to the reaction between the gun and the projectile after disengagement of the projectile from the rifling.

Methods of determination of both types of recoil are suggested and values are computed.

The generally accepted theory of recoil is a restatement of Newton's Laws of Motion. Without due consideration of the matter, this has been erroneously taken to mean that the energy of recoil of the gun is equal to that of the projectile at its muzzle velocity.

It so happens that the energy of the projectile of the .30-'06 U. S. Springfield rifle with service charge is approximately 2700 ft. lbs. This is the potential energy in a 200 pound man standing 13.5 feet above the ground. If the man should drop from this height to a prone rifleman's shoulder, he would deliver the same blow as would the rifle. Just try to catch a 200 lb. man dropping from a height of 13.5 feet on one shoulder say 100 times to correspond to 100 rounds!

Perhaps Newton's Laws have been misinterpreted in this case.

More than one authority has stated that the reason for so small an effect on the shoulder is that it is exerted for so short a time. But Newton's Laws do not consider time as an element in the definition of "work."

The most usual example of impact (work done in extremely small units of time) is that of the billiard balls under this condition. There is nothing in the behavior of the object ball to lead us to believe that a rifleman receiving an impact blow of 2700 ft. lbs., would stop anywhere short of Chicago if he were using the Sandy Hook Range!

So let us stop for a moment to consider what happens when we fire a gun. First of all, we have a projectile, a charge of powder, a cartridge case and a gun, all at rest. We ignite the charge and initiate the explosion thereby building up pressure in the gun. *No forces outside this closed system are in operation.*

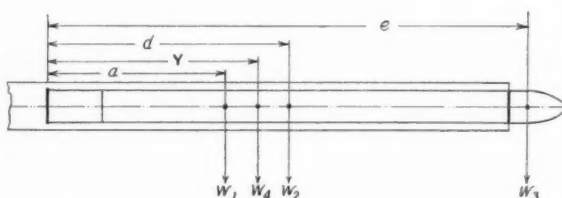
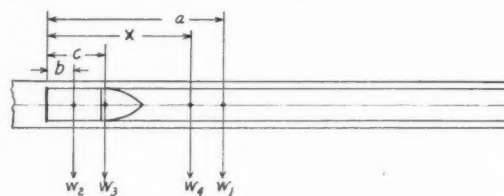
The pressure is in a chamber enclosed by the gun walls and by the base of the projectile throughout the time the bullet is in the barrel. The analogous condition is that of a tank filled with gas under pressure. *There is no tendency for the tank to move in any direction.* The only motion is that of extension under force sufficient to resist the stresses induced by the pressure. The pressure is necessarily equal in all directions so that the only effect is to increase the size of the container, which in a gun involves movement of the projectile as well as of the walls of the gun.

The movement of the projectile, however, brings about a change of position of the center of gravity of the closed

system consisting of the gun, projectile, powder charge and gases. Since this is a closed system with no outside force in operation, it follows that there must be a compensating motion of the gun rearward to hold the center of gravity constant.

The total motion is readily computed by determination of the relative positions of the center of gravity of the system with the projectile in its normal position before firing and at the instant before disengagement from the muzzle, thus:

Let w_1 be the weight of the gun with its center of gravity distant a from the breech (see cut below). Similarly, w_2 is the weight of the charge at distance b and w_3 is the weight of the projectile at distance c . Let w_4 be the total weight of the system with its center of gravity distant X from the breech.



Then:

$$w_4 = w_1 \text{ plus } w_2 \text{ plus } w_3$$

$$w_4 X = w_1 a \text{ plus } w_2 b \text{ plus } w_3 c$$

$$X = \frac{w_1 a \text{ plus } w_2 b \text{ plus } w_3 c}{w_4}$$

At the instant before the projectile leaves the gun the position of the center of gravity of the gun itself is unchanged. The powder and powder products fill the entire bore of the gun and their center of gravity will be at a determinable distance from the breech with weight unchanged. The center of gravity of the projectile will be at e distance from the breech. Then the final center of gravity will be defined by the equations:

$$w_4 = w_1 \text{ plus } w_2 \text{ plus } w_3$$

$$w_4 Y = w_1 a \text{ plus } w_2 d \text{ plus } w_3 e$$

$$Y = \frac{w_1 a \text{ plus } w_2 d \text{ plus } w_3 e}{w_4}$$

in which Y equals final position of the center of gravity at ejection.

The resulting movement of the gun will then be:

$$X \text{ minus } Y$$

Computations on actual guns indicate that the amount of movement in a .30-'06 U. S. Enfield rifle is on the order

of $\frac{1}{16}$ " and for a 14" naval rifle about 4". In both cases the gun was assumed to be in the level position throughout the firing.

The amount of energy exerted in recoil during this period is that required to move the gun the required distance against the resistance offered. In the case of the rifle this is expressed by the equation:

$$E = \frac{1}{2} MV^2$$

in which E is the energy, M equals the mass of the system and V equals velocity of the movement.

If we assume the total weight of the gun and charge is 7 pounds and that it recoils $\frac{1}{16}$ " or $\frac{1}{4}$ " divided by 12 (to reduce the distance to feet) in .01 seconds, then:

$$E = \frac{1}{2} \times \frac{7}{32} \times \left\{ \frac{1}{16 \times 12} \right\}^2 \times \left\{ \frac{1}{.01} \right\}^2$$

$$E = \frac{7}{237} = .03 \text{ foot pounds.}$$

Data for determination of energy of recoil of guns with recoil cylinders are not available for this paper.

During the period described above, that is, prior to emergence of the projectile from the muzzle the major portion of the energy in the powder will have been expended in bringing the projectile to its true muzzle velocity and in other effects noted in the Hardcastle Energy Balance described later. Despite this very large expenditure the actual energy exerted to produce recoil up to this time is extremely small as compared to the actual recoil observed by test. Just after the bullet and powder and powder products lose contact with the gun a force acts to move the gun toward its original position due to the change in the center of gravity.

Up to the instant of firing thus far considered; that is, up to the moment when the projectile and gun break contact we see that the amount of recoil is of a determinable amount. Now let us suppose for a moment that it is possible to remove the projectile instantaneously.

We would then have the remaining powder and gases expanding into the atmosphere, that is, into a medium of large volume and relatively low resistance, as is the case when powder is burned freely in air. There would be little recoil from this action.

But we do find recoil when we fire a gun. The reason is obvious. The existence of a period during which the projectile, gas and gun are in close proximity and the force causing recoil is in operation between them.

Tests indicate that, if the pressure behind the projectile is relieved before the projectile leaves the muzzle, there is a considerable effect on the energy of recoil. An unfired cylinder having an inside diameter equal to that of the bore at its largest diameter was screwed on the muzzle. This cylinder was slotted so as to allow escape of the gases behind the projectile direct to the atmosphere thereby relieving the pressure before the projectile left the prolongation of the barrel.

Pendulum measurements indicated that the recoil was reduced approximately 35%. The barrel of the gun was the same length so the true muzzle velocity was unchanged. But the gas pressure and energy between the gun and projectile is greatly reduced and the resulting recoil is diminished.

It may be that the maximum velocity of the projectile is somewhat reduced by the device. The effect must be small because the change in work done is extremely small, namely, 35% of 16 foot pounds. The variation of this amount at muzzle velocity can be of only slight effect.

It would be interesting however to test the effect on accuracy of such a variation.

During the travel of the projectile through the bore there is possibly some leakage of gas past the projectile. The pressure of the escaping gas is then exerted on the atmosphere in front of the projectile. We have then a reaction between the atmosphere ahead of the projectile, the projectile itself and this gas. This effect is only sufficient to force the air from the bore and must therefore be slight.

At the moment when the rotating band or its equivalent breaks contact with the lands at or near the muzzle we have a sudden change of condition. We then have expanding gases and burning combustibles in a volume confined by the bore of the gun, the base of the projectile, and the pressure waves of gas against the circumambient atmosphere. There is immediately set up a reaction between the base of the projectile, the circumambient atmosphere and the face of the gun breech with the gas column as the medium of transmission. *It is this reaction that generates most recoil energy.*

There may also be some effect due to the expansion of the products at the muzzle of the gun acting against the face of the muzzle. Experiments indicate that this effect is small in comparison to the above mentioned reaction.

When the projectile reaches the muzzle, it has attained a velocity near to but not quite the maximum velocity. During the time between the emergence from the muzzle and the start of formation of a vacuum behind the projectile, this reaction between the gun and the bullet continues to exert a force causing recoil.

Obviously there is no means available to measure this force directly. However, we will find a study of the energy balance given in Table 1 to be revealing. This table has been calculated by J. H. Hardcastle from various data and may be found in the text book "Explosives", by Arthur Marshall, A. C. G. I., F. I. C., M. R. I., Volume III, Page 94, Paragraph 321, and is based on the combustion of cordite in a British .303, Mark VII, rifle cartridge. It follows:

TABLE 1

	Ft. lbs.	Per centum.
1—Carried away by bullet as muzzle energy	2300	31.4
2—Carried away as gas energy muzzle	254	3.5
3—Carried away as heat	260	3.5
4—Carried away as energy of rotation ..	35	0.5
5—Imparted to barrel by friction	260	29.2
6—Imparted to barrel by hot gases	1880	
7—Recoil	11	0.1
8—Heating cartridge case	5	0.1
9—Ejected at muzzle	2315	31.7
	7320	100.00

This author states that the recoil of the rifle in question, as measured on the pendulum, is 11 foot pounds *instead of any figure approximately equal to the muzzle energy of the projectile.*

Now the energy of recoil must be furnished by the powder. The muzzle energy of the projectile, both that due to translation and to rotation are otherwise expended. All energy due to interaction between lands and grooves and the projectile must be subtracted. The same is true of all energy in the formation of heat, sound and pressure waves of the explosion. An examination of the table will reveal that the energy available for recoil is insufficient

(Continued on page 35)

HOME GUNSMITHING

By "PROFESSIONAL"

NOTE: The author of this article—which is the first of a series—is a well-known professional gunsmith. He began using tools back in early boyhood days, in a small workshop in his home, and is well qualified to instruct the novice and amateur.—ED.

JUST A MINUTE, PLEASE, while I change to these soft slippers and get the old pipe drawing; and then we'll see. And I'd better get a pencil and some paper, because there'll be a bit of sketching to do, most likely. There, that's better—and now we're all set.

In these days of power machine tools it is easy to lose sight of how much work can be accomplished with hand tools. Although we know that excellent rifles were built and in some instances are still being built with only hand or home made foot power tools, we often hesitate to undertake a piece of gunsmithing work for fear that it cannot be accomplished for lack of a shop full of power tools.

While it is true that hand tools do not make for high speed, the accuracy and reliability of the work need not suffer. A. W. Peterson of Denver, whose target barrels have been famous for years, once made the remark that when he built his hand-power rifling machine he had never seen a big power-driven rifling machine.

Now, one of the first requirements in the shop is a steady bench. If you intend to do your work in the attic or garage, there is usually open studding available on the walls and it is best to fasten the bench to this studding. If your shop is in the basement there are sometimes first floor supports to which the bench can be attached. The legs of the bench should be well braced. This is usually easy to do by fastening cross pieces on the legs, near the floor, at the ends of the bench, and nailing or screwing a lower shelf to these.

Then a reasonably strong vise is needed. If only one vise is used get a machine vise of the swivel variety in which the jaws can be turned to lie over on their side. These are available from mail order houses at a low price and this feature of the jaws turning over on their side is very handy for holding stocks upright to work on the butt end as in fitting recoil pads or buttplates. If two vises are used one may be a machine vise with swivel base and the other a cabinet maker's vise with L shaped jaws, one jaw across the top and the other down one side to hold a stock upright.

Soft jaws should be provided for the machine vise, some of fairly heavy copper sheet for holding finished metal parts and others of heavy felt for holding stocks. These felt jaws are best made of regular rubbing felt glued to backing pieces of hard red fiber of $\frac{1}{4}$ " to $\frac{1}{2}$ " thickness. Make these fiber backing pieces long enough so that a notch can be sawed out of the bottom of each one so that it straddles the vise bar, thus holding the felt jaws in position.

A few chisels will be needed for stock work, of various widths from $\frac{1}{4}$ " to 1", and some gouges or half-round chisels. Chisels can be easily made, including carving-type chisels, from the ground flat tool steel supplied by both Starrett and Brown & Sharpe. This comes in varying widths and thicknesses and may be heated and bent into shallow curves, as the carving chisels are. The edge should

be filed on these before they are hardened. They are then hardened by heating to cherry red and plunging endwise into water. After hardening the chisel should be heated again, slowly, until a deep yellow, verging into brown, appears on it, then quench it quickly again in water, and stone the edge until it is very sharp. After stoning, the edge should be stropped on a leather strop. Half-round gouges of sizes up to $\frac{1}{2}$ " can be made by filing them from round drill rod and hardening and tempering as described above.

A ten- or twelve-inch cabinet rasp for filing stocks to shape is necessary, and a few mill files, bastard-cut files, and Swiss-type files of various sizes and shapes, such as three-square, square, and round, are useful.

A good bit brace and an assortment of bits should be on hand. If you like to do inlaying work on stocks, a few Forstner bits will be handy as these are not guided by a center spur but by a circular rim, and they cut very clean, sharp-edged holes and can cut an arc of a circle or be guided in any direction regardless of grain.

A small hand drill of the type made by Millers Falls or Yankee, with an assortment of twist drills purchased as needed, should be included in the shop equipment. These crank-and-gear hand drills do not handle very successfully in steel a drill that is more than $\frac{1}{4}$ " in diameter, but if a small hole is first drilled with one of these hand drills it can easily be drilled out larger by using the size drill desired in the bit brace, provided you have a bit brace with the modern type chuck that holds either round shank or square shank drills.

The hand drill, by the way, can be converted into a bench drill by either purchasing a bench drill stand which holds the hand drill, as made by Millers Falls, or building a stand yourself of pipe fittings. In case you wish to build your own bench drill stand, buy a hand drill with a straight, wooden, hollow or solid handle which unscrews from the drill frame. This handle can be removed and a straight shaft of steel threaded to screw on in place of it. The bench stand is then made up using a pipe flange for the base of the column. Into this flange screw a nipple of any length desired, securing it against the flange with a lock nut (see sketch). On the upper end of the nipple screw a tee and into the side outlet of this tee screw another nipple, of about six-inch length, and on the end of this nipple screw another tee, by its side outlet, with its straight-through opening in a vertical position. In the top end of this tee screw a close nipple and screw a flange onto this close nipple to act as a drill table. You can fasten a flat piece of steel onto this flange if you wish to make the drill table larger. Now going back to the first tee, screw a piece of pipe into this to make the column, and on top of it screw another tee, and into its side outlet screw a nipple the same length as the one in the lower tee. On the end of this nipple screw

(Continued on page 35)



PISTOLEERING FOR GAME

By BARRY STORM

Illustrated by the Author

UNTIL A VERY FEW YEARS AGO revolver hunting was just another myth to the average shooter. Something to dream about but hardly a possibility that would materialize. For where were the high-speed, heavy shock loads that were necessary? And the guns to handle them?

Now, all of these things have come, to cause the greatest single revival of handgun shooting in years. The day of the revolver hunter is here. And to stay, make no mistake!

The most sceptical shooter must admit that given anywhere near the velocity and shock power of a rifle, the short two and a half pound revolver in the hands of a *crack shot* has advantages that no shoulder arm will ever possess. And this discounts the purely sporting angle. It is extremely convenient to carry. And where is its equal for fast snapshooting? And if your game swings to the wrong side, what matter? A man has two hands. Nor have we heard anything yet about applying the quick draw to hunting—cutting the margin of time between the seeing and the shooting of game. Indeed, a whole new bag of shooting tricks must be eventually developed by the revolver hunter.

Hunting with a revolver is much the same as hunting with any other weapon if one is a skillful shot. That is, the hunting part of it; the knowledge of game and of woodcraft. The rub comes in the shooting, the handling of the gun. Bounding deer, leaping rabbits and soaring birds are no paper targets hanging upon the wall. And the crack target shot needn't be ashamed of missing under these different circumstances until he has learned a few tricks to match the situation. The target shooter has one advantage however; he may miss his target without missing his dinner, as the writer has on more than one occasion.

It goes without saying that those who take up hunting with the revolver must be first of all excellent shots. A shooter who cannot punch a bullseye regularly would hardly stand a chance of hitting moving game. Beyond this, much latitude is allowed because shooting form counts for nothing. Hitting the game is the thing, even though you must use both hands and a foot to do it.

To the target shooter the method of using his gun will be much the same. Sighting and trigger squeeze will dupli-

cate that of rapid fire shooting. Holding alone is different, for a target shot's light grip while firing with an even regularity will not suffice. One shot may drop the quarry. Again, a staccato burst of shots will be necessary. And under the impact of recoil the gun would shift in the hand. Then, too, the hunter will seldom have his gun in hand when the game is sighted. He must draw it and point it in one quick motion, without a change of grip. In this respect revolver hunting is akin to defense shooting. All of these things make a rather tight hold on the gun butt necessary. The thumb and second finger must encircle the small neck with a strangling effect to prevent the gun from shifting either up or down. The tight grip of the other two fingers and the pressure of the upper thumb joint against the frame of the gun will equalize the side pressure of the trigger finger. And the tang should fit snugly into the center of the crotch between thumb and hand (see cut above).

Upon the firing line at a target range an observing shooter will notice that no two men use exactly the same stance in shooting, even though they all may have been trained by the same instructor. Personal convenience and differences in physique modify any standard form. And so it is in hunting. But in hunting there is one common trait peculiar to all shooters: upon sighting game they almost invariably face it squarely. This is natural because our eyes are placed as they are, and like all creatures we instinctively face a source of interest. We must therefore change our stance accordingly. At the same time we must be prepared to shift with the movements of the game. This means that the usual method of shooting with the arm fully extended at an angle cannot be conveniently used. Instead, we will find a stance similar to that illustrated as the last step of the quick draw very helpful under the circumstances.

Standing in such a manner, we must in order to align the gun upon the game in the shortest space of time, bring it up directly into the line of vision. The elbow is bent to suit so that this may be done with the least amount of motion. In this position the shooter is ready to follow the movements of his quarry to either side by merely pivoting from the waist without affecting the alignment of his gun at all, allowing him to fire upon his target easily and naturally. Too, this



1



2



3

Pictures 1 to 3 inclusive illustrate the technique of two-handed shooting

No. 4 shows the cross-legged sitting position

Pictures 5 to 8 inclusive show the hip draw



4



5



6



7



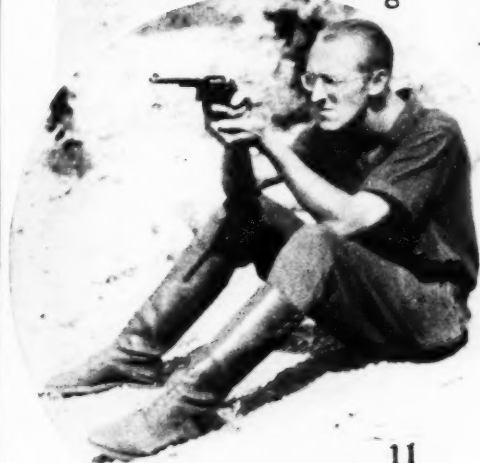
8



9



10



11

On this page pictures 9 to 14 inclusive, with the exception of picture 11, show the different stages of the twist draw

No. 11 is of the slower but steadier sitting position



12



13



14

15

is made necessary by two-handed shooting, which is more often than not a necessity in hunting.

Indeed, there will be a great many times where game will be seen when it is physically impossible to hold a gun steady enough with one hand to bag it. One may have been climbing, and be winded. Or he may have been running to reach a position where a clear shot is possible. These things, and more, are the rule and not the exception, and add much to the sport of the chase. They make a proper knowledge of two-handed shooting very convenient.

The method of executing this handy trick is amply illustrated in the photographs. Facing his target, the shooter's right hand draws and raises his gun in the usual manner. But at the same time his left hand follows up under the gun with the palm upward. The relative positions are shown. Just the instant before the right hand aligns the gun upon the target, the left comes under the gun butt with a slight pressure upward. This is compensated for by the right hand, which presses the gun butt down upon the palm of the left with an equal pressure. The effect is the same as if the shooter had set his gun butt down upon a log. Sighting is accomplished by moving both hands as one. A few tries will teach one the knack.

There are other ways of achieving steadiness in holding when the shooter is for any reason unable to match his holding ability with the shot he wants to make. The quickest of these, and the most helpful when one is winded, is simply to drop down cross-legged upon the ground as illustrated, in picture No. 4, prop the left elbow upon the left knee or thigh, and shoot two-handed. This can be done in a flash as the gun is drawn.

Another, slower way especially desirable for difficult shots at long ranges is also illustrated (No. 11). Here the shooter places himself carefully in a shooting position with both feet partly extended and knees a foot or so apart. He faces his target directly. Both elbows are rested upon the knees, the right behind the kneecap, the left ahead so that the hollows of elbow and knee fit comfortably. The right hand grasping the gun sets the butt down hard upon the upheld palm of the left hand after the fashion of two-handed shooting. The result, as shown, will enable any shooter to utilize his holding ability to the utmost.

Many hunters fail to score a hit because they have not acquired the ability to judge distances correctly. Distances and lighting conditions are never constant as upon the target range; there are always variations. The most practical way of getting around these is to use the front sight blade as a measure. Lay out twenty-five, fifty, a hundred yards in

the field, and find out how the sight blade looks at these different distances and under the various light conditions in relation to trees, rocks, logs, etc. See and remember the different areas it covers in width and in height. After a time one will do this automatically in order to judge distance. With modern high-speed magnum loads there is sufficient latitude for the skillful shot. And the skillful shot got that way by much of this practice in either actually hunting or in snapshooting at random. A few hundred rounds expended at this point will save wasted ammunition later, and the loss of a trophy.

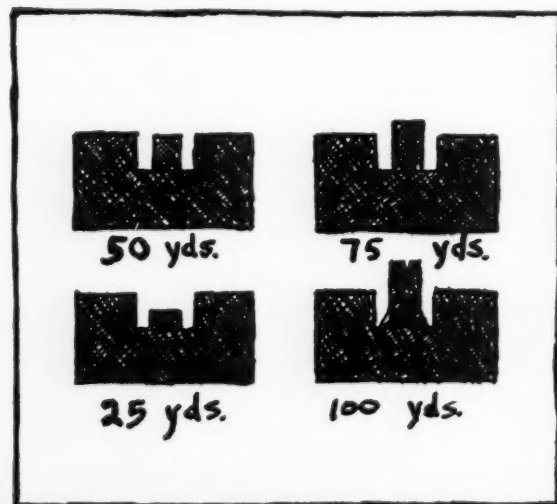
Sight setting, however, is another thing. Almost invariably the game will be jumped suddenly and the shooter will have to act at once if he would bag it. There is rarely time, except in making long shots at standing game, for any changing of the sights. Again the front sight blade must serve as a measure.

Whether one uses the Patridge blade or a bead front sight, he will find things much simpler in hunting if he normally shoots with the sights of an even height. That is, with the top of the front sight even with the top of the rear. Here, the gun should be targeted-in for an intermediate range, depending upon the nature of the country. A good average is fifty yards when the sights are equal in height. Using this fifty yards as a standard from which to work, the hunter may use different heights of the front sight blade as it shows in the rear notch for the different distances. The cut on this page will make this plain. For example, the top left figure shows how the sights will look at the normal fifty yards. Now, if the shooter will measure off a twenty-five yard distance and draw a finer bead so that the rear sight notch is only partially filled by the front blade as shown in the lower left figure, he will, with a little experimenting, find the exact height at which the bullets will strike the target at this distance. Impress this sight image upon the memory by practice shooting; and indeed, all of them. Again, with the range extended to seventy-five yards, draw a coarse bead so that the front sight blade extends about half the depth of the rear notch above the top of the rear sight, as shown in the top right figure. Experiment until the exact height is found at which the bullets are striking center at this distance. Then at a hundred yards hold the front blade above the rear sight top at almost the full length of the rear notch, as shown in the lower right figure, and again find the exact height by shooting. Every shooter will have to find the variations in the sight image which fit the height of the front sight blade and depth of rear notch of his individual gun. There is only one thing to be remembered: drawing a coarse bead or raising the front sight, raises the gun muzzle. Drawing a fine bead lowers it.

The revolver hunter will find that a working knowledge of the quick draw will not only add to his efficiency, but to the sport of hunting as well. This does not mean that he must carry the matter to the point reached by the highly skilled defense shooter. If one can draw and fire an accurate shot in a second, the time will be sufficiently fast for hunting purposes. And there is a tremendous fascination about matching speed and shooting skill against the quick movements of game.

Fortunately the quick draw can be mastered in short order—the mechanical execution of it, that is. Extreme speed, should the hunter desire to develop it, is merely a matter of time and practice, once he knows what to do.

The photographs illustrate quite clearly the steps in executing the Hip Draw. This is the most popular of the various drawing systems, and is to be recommended over the others since the gun is brought straight up and out from the holster toward the target instead of swinging



(Continued on page 37)

DEPRESSION DAYS

By "COUNTRY EDITOR"

THIS HAPPENED in the fall of '33. I have tried to tell it just as it happened. By trade I am a country editor, and supposed to be a fairly accurate reporter. I imagine that this incident was duplicated a good many times in different parts of the country in '33 and '34.

I had gotten my crowd together and gone to the annual pre-Thanksgiving turkey shoot of the Whoopanholler Rifle, Revolver, Shotgun, and Clam Chowder Club. The boys who ran the Club had a swell lay-out. It was located in a river bottom where the stream made a one-hundred-and-eighty-degree swing. That meant that there was a forty-foot bank, about three hundred yards away, sweeping around in a half circle. Pistol, small bore, hi-power, running-deer, and shotgun events were laid out so that there was absolutely no danger of anyone firing onto a neighbor's target or shooting up the pit crew in another event. Only a bunch of drunken half-wits, fooling with a machine gun, could have caused an accident there.

At the end of a two-hour ride we pulled in with our cars, and drew up beside the small club house. No one got out for a minute or two, for we just sat there drinking in the scene in quiet content. There's something particularly satisfying in that first moment when you arrive at a big shoot. There's a catch in the throat and a little swirl in the stomach, for the shoot is just ahead, you're still the high gun in your own mind, and anticipation is about to break into realization.

We sat and looked out over the dead grass, bathed in the pale yellow November sun. There were the targets shining white on their frames, the pungent smoke from a barbecue fire, the tearing blasts as the big-bores warmed up, the light reports of the .22's. Over to our left somebody unloaded a .45 auto in beautiful timed fire. That was enough. I pulled out my pocketbook and rifled my thumb over the pack of bills.

"Everybody got enough money?"

Joe, half in and half out of the back seat, balancing a big blanket roll of rifles, grunted:

"Whatinhell you think I been saving my money for this last month?"

I grinned, and gave him a lift. We laid them out, three tightly strapped rolls of blankets, carefully turning them over and over. One by one the guns slid out—the 52's, the Springfields, the deer rifles, and the shotguns. Each man placed his pieces side by side, piled up his ammunition, and flipped the breeches open. We left our town constable on guard, who'd come along for the ride, and walked over to the ticket booth to check over the events and find out just what sort of competition we were going to run into.

It was a swell shoot. The sun was warming on your back as you lay prone; but not hot. The air was dead, but there was no heat haze or mirage. One of those lucky afternoons when you just can't go wrong, when your nerves are steady and yet relaxed, and every bullet goes right where you hoped it would go. One of those lucky

afternoons when only one or two of the really hot boys have showed up, and you and your crowd can dominate the field. I was coming back from the running-deer event with a big turkey, walking a bit slowly perhaps, so that the folks sitting in the cars could have a decent chance to see just who had won, when the fellow with the megaphone yelled:

"All out for the deer-rifle event, 100 yard, offhand."

I speeded up my walk, heaved the turkey into the back of the car, grabbed a fresh box of shells, and headed for the ticket booth. Right there, coming from his auto, I met Ed Marston. Now this Ed Marston is usually about one point per shot better than I am offhand, all things being equal. But I am always willing to bet on luck to even Ed and me up, especially in a three-shot event. Luck has done that quite a few times for me. But just then I noticed what Ed was carrying. According to the letter of the rules it was a deer rifle, no mistake about that.

"Ed," I said, "by no chance is that one of those very early .38-55 Marlins that was so very, very accurate?"

Ed just grinned.

"By any chance," I continued, "have you fitted a 103 Lyman and a 17A to that old rusty rifle?"

Ed grinned again.

"And I don't suppose," I concluded, "that you have had the pull worked down to a feather edge and gotten hold of some extra-special hand-loads?"

Ed still grinned, and lengthened his stride.

Why should I help Ed Marston buy his turkeys? Let him buy his own. I walked back to the car, laid my rifle and shells on the blanket, and, taking my bag, went over to the pistol range to warm up. I broke out a brand new ten-inch H. and R. single-shot, and went to work. About the fifth shot a voice began to chant in my ears:

"A skinny eight at three o'clock—Squeeze 'em, don't jerk. And there goes a nine at six o'clock—that's better, but not as good as you can do. Unlax yourself, for you got all the time in the world—no rush—just build up that old squeeze. Ah—there it is—a nice ten at six—but you can do better than that. Just bring it up a bit more—just a hair more front sight—you're going good, but don't get cocky—just a hair more front sight, and squeeze it—squeeze it."

It was a perfect coaching voice; low, well modulated, and the phrases seemed to come in rhythmic beat that never affected the conscious mind or irritated it, but rather went straight to the subconscious, and without nervous strain, made eye and hand execute the commands.

At the twentieth shot I turned to thank my coach. He was a tall, slim chap with level blue-grey eyes and tanned face. On the left pocket of his khaki shirt, that had been so often washed that it was almost white, was an N.R.A. button. A beautifully tooled leather belt held up his blue denims, that had been twice patched at the knees.

"Thanks a lot," I nodded, as he slipped my binoculars back into their case, and laid them on the bench. I rolled

(Continued on page 36)

BLACK-POWDER RESIDUE

By P. H. MANLY

OLD BLACK POWDER is now but a memory to most shooters, with nothing left but a bad name for dirty work. The old-timers that used it—and understood its failings—did not need to worry a great deal about the fouling, for they knew ways to prevent or overcome it. I will admit, of course, that there was quite a difference between the various makes of black powder, and most shooters had a preference for some particular brand that seemed to work best with their style of reloading. Many times I could not get the powder of my choice, but had to take whatever kind the dealer could obtain for me. My favorite, and the powder that I would order, was Laflin & Rand's "Orange Rifle Extra," FFg. This brand seemed to shoot the cleanest for me, and make the best groups of any black powder that I used. But I always told the dealer to be sure to get *something* in the powder line for me even if it wasn't what I had ordered, as I just had to have powder to shoot during the long winters on the homestead, rifle-shooting being my sole amusement.

Though black powder was not as efficient as smokeless, because of fouling and smoke, maybe it was a good thing for the game, for black powder exterminated the buffalo and the wild pigeon soon enough as it was, and perhaps some other species of game, too. Yet black powder had a point or two of superiority over smokeless. Enough of it could always be used to fill a shell up to the base of the bullet; it was flexible and could be used in large or small charges; and *it did not pyramid pressures if a grain or two over a certain charge was used*. Why a bulk smokeless was never devised that could be used as safely as black powder, has always been a mystery to me. At one time No. 80 was recommended to me quite strongly as a black-powder substitute; but the recommended charge did not begin to fill the shell, and if enough powder were used with lead bullets to get black-powder velocity, there would be funny little creases on the sides of the bullets, and wild shots. If with jacketed bullets a little too much No. 80 was used, the primers would be really flattened.

Until the last dozen years I used to get black powder that gave me little or no trouble from fouling, though I would fire maybe a hundred shots in a string during an afternoon; and I never thought of wiping the bore until I was through. I imagined then that most of my freedom from residue troubles was due partly to the fact that I used a soft, easy-melting lubricant on the bullets—just beef tallow softened and toughened with vaseline. Also because my shells were freshly loaded. Nearly any black powder would cake in a barrel when fired on a hot, dry day, if one or two shots were fired at intervals as in hunting, whereas no trouble would occur when the same number of shots were fired in a continuous string. Of course the fouling could be loosened by blowing the breath through the barrel after each shot.

When only one load of black powder is fired through a rifle barrel, the latter will be rather hard to clean. After two shots it will clean very hard, but the fouling seems to loosen up at the third shot, and thereafter the bore can be wiped easily; and the barrel will not be any more difficult to clean after a hundred shots have been fired, provided at least a fair quality of powder is being used.

Only once—twenty or more years ago—do I remember getting a batch of actually dirty black powder; but that powder was *really* bad! Finally I gave up hope of being

able to shoot it in the rifle without clogging up the bore, and used what was left of it just to blast open post cuts. But for the last dozen years good black powder has been a rare bird for me to catch. Of course there is no demand now for black powder, so manufacturers make but little, and dealers are not anxious to stock it. I have used black powder longer than I really wished to, and I have not yet found a substitute for it in a cheap, effective vermin load for quantity shooting in a .32-20 rifle. Also, my favorite hollow-point mould casts no crimp groove on its bullets, so I need a bulk load to keep the bullets from receding into the shells.

But the cans of black powder that I bought seemed continuously to get dirtier, or worse in some other respect, until I was obliged to heed J. V. K. Wagar's advice and use a priming charge of 5 grains, bulk, of sifted Shotgun Smokeless under 14 grains of black powder, in the .32-20. Then another can of black powder I got was still worse, so I increased the priming charge to 7 grains. Finally the dealer bought a keg of black powder just to keep me supplied. I bought a few pounds of it for a starter, but it made so much dirt that the 7 grains of priming would not clear the bore of residue, and after a few shots the bullets would hit here, there, and various other places. I decided the powder company had fixed up that keg of powder especially for me by merely sifting it out of their blasting-powder stock, so as to cure me of the black-powder habit forever! But I should think that a well-known company like this one would hesitate to put out such an inferior product under their brand.

Then a gun-nut friend gave me a pound can half full of FFFg powder of the same make, that he had possessed for several years; and it was clean. I shot it without priming, and killed over a hundred wheat squirrels with that half-pound of good powder. My regret was that it should be so difficult to get good powder like it.

When I was a boy an old-timer told me how to test and how to know good black powder. If the tongue was touched to some of the powder and the salt-petre bit the tongue at the touch, the powder was clean and of full strength. Then again, rubbing a pinch of the powder in the palm of the hand with a finger of the other hand showed whether the powder was hard-pressed and clean, or soft and of poor quality. The components of black powder were generally salt-petre, sulphur, and charcoal, but the relative amounts of the different ingredients would be varied by the makers so that the powder might give the results desired. But there was much variation in the quality of the ingredients.

It seems as if most factory-loaded black-powder cartridges that I used were loaded with a rather poor grade of powder. I attributed part of the fouling trouble then to the hard, dry lubricant that the manufacturers were obliged to use in order that the cartridges would be suitable for use in hot as well as cold climates; for later on, when I moved to a hotter, drier part of the country, and did most of my vermin-shooting in warm and hot weather, necessitating the use of a lubricant that did not melt as easily as tallow and vaseline, my fouling troubles increased.

Black-powder residue was at its worst in .22-caliber rifles. The shallow rifling soon became filled with fouling, and the small, light bullets were affected when the fouling began

(Continued on page 36)



NEW MEXICAN QUAIL

By CHARLES ASKINS

IT WAS the opening day of the new Mexican quail season, and we were all pretty keen about it. My son came up from Strauss to accompany Joe Medinger, young Joe, and myself. We were all to go in Mr. Medinger's car, since it had two seats. The boy brought Buck with him, and I persuaded him to take the little red dog along, since we had no other dog except Cute, the setter—old and crippled from having been run over by an automobile.

We were to have gotten off very early, much earlier than we did, and Charles, Jr., had come up the night before so as to be on the ground. We were delayed by all those little things that are always forgotten until the last minute; still we got off before sunrise. Mr. Medinger knew just where to go, having been there the year before. We headed east, across a range of mountains, thirty miles, then north on the other side of the hills yet another thirty miles, the last half merely following a trail, but a dry and hard one. We were going into an unfenced cattle country, but most of the cattle had starved to death or died from lack of water, their remains scattered along the route.

We were armed every one according to his own notion of what was right, in the light of his own experience. Mr. Medinger had a Parker, and wouldn't trust any other make of gun. He had two of them, one an eight-pound piece, his original Parker, now to be used by Joe, Jr., and the other, lighter, which he would shoot himself. Both had 30-inch barrels and were full choke. Not only that, but he and his son were shooting No. 6 shot, which size he declared necessary if blue quail were to be killed on the spot. The boy had a Model 21 twenty-bore, No. 2 skeet choke in both of its 28-inch barrels. That gun was built for me: straight stock with two-inch drop and straight grip; it was the only gun he could hit with in his style of snap-shooting. I had a 20-gauge Remington Model 31, with which I had been very successful on doves the past two months, so couldn't believe it would not be just as good on quail. The gun let me down that day, though, and I did not shoot it thereafter on desert quail. I knew all about quail shooting from my experience on Bob Whites; but these desert quail got up so wild and flew so fast that I balked my gun through not bringing the slide back with sufficient force to jar a shell out of the magazine. I'd pump the gun when I missed, and snap, but nothing happened; no shell in the chamber. Both my son and I carried twenty-

bore shells loaded with one ounce of 7½ shot. I didn't in the least believe it was necessary to shoot number 6 shot, and as a matter of fact I do not believe it yet, though No. 7 might do well.

After we left the highway and took north on the trail, mountains ahead of us, mountains to the right of us and mountains to the left, we kept sharp eyes for quail along the way. Mr. Medinger, in the light of his previous experience, thought we would see a half-dozen bevs along the way. We never saw any. Shortly we reached our destination, sixty miles from the city of Las Cruces, where our trail ended at a cabin that was used by the cowpunchers when out forty miles from headquarters rounding up cattle. We were up about six thousand feet now, where the gulches became deep. Just off to the right of us the canyon was sixty feet deep, passing around in front, cutting into mountains steep and high. Cattle trails entered the gulch now and then, and a horseman might have crossed, but no cars ever had or ever would.

Mr. Medinger was a pistol shot; a good pistol shot, but not a good match shooter. He had a .38 revolver with him, his son a .22-caliber, and they amused themselves along the way by shooting at hawks. It surprised me how close they could hit to a hawk without killing him. When the car stopped, a big black hawk sat on a crag a hundred yards off. Mr. Medinger fired at the hawk with his pistol, always cutting the rocks right around the big bird's feet. At the third shot one of the boys gave an exclamation, and looking up the canyon I saw that five deer had come out of the brush and were cantering deliberately up the sandy floor of that creek. We didn't do anything to them with shot-guns, and Joe, Sr., was not in position to try his pistol.

We went down into that gulch and out the other side, a stiff climb for an old fellow. Mr. Medinger did not climb out but went along up the canyon where he put up a bevy of quail and killed one. The remaining birds winged high up on the mountain where nobody felt like trying to follow them, even if he could have, which was doubtful. Besides, it didn't appear worth while to make such an effort, for the whole surrounding country looked like quail ground. We were high enough up now so that brush grew along the arroyos and on the foothills. We expected quail any minute, once in the sage and brush. Mr. Medinger came out and joined me, the boys having gone on at a faster



*Left—Upper:
Medinger, Sr.
and Askins, Jr.*

*Lower:
The Author*

*Right—Top:
Playing with
Buck*

*Center:
Starting out
on the hunt*

*Bottom:
Old Cute*

pace than I felt like keeping. We crossed a low mesa to another wooded draw two miles away to the east, then down that arroyo for two miles, back across the mesa to our own canyon, striking it two miles down, then back to the car along what had once been good quail ground. We didn't see a quail or a jackrabbit or a coyote, or any other living thing—or a drop of water anywhere. There was the whole secret of our failure to find birds: nothing that required water could exist in that country at that time.

We had probably covered about six miles of rough going by the time we got back to the car. I wasn't so much tired as discouraged with the prospect. Mr. Medinger had become a bit lame, having a game ankle which had been injured in a fall from a house he was building. We sat down on the running board of the car; and thereafter some of the hunting Mr. Medinger and I did was while sitting on the running board of that car. The old setter had been doing the best he could, but was also ready to quit, and climbed up on the back seat of the car and went to sleep. Buck had gone with his master, and we listened for the younger generation to break loose at any time, but never heard a shot. By and by the boys came in, also up our

canyon, having followed about the same route we had, except a longer one. They reported never a quail. Buck couldn't even find a jackrabbit to chase.

All we had was one quail for the gang of us, and good appetites. Just queer how hungry you can get up in the mountains, hunting blue quail where there are none. It was eleven o'clock, and we decided to eat. The boy and I had a store lunch, but Mrs. Medinger was French, knew just what would taste good to a bunch of hungry hunters, and we decided that she was a noble cook. Not much was done to the store lunch, but plenty to the Medinger lunch. As we finished eating, another car drove in, five hunters in it. They had followed our tracks, maybe thinking we knew where we were going. Three of that party carried rifles, and we told them where we had seen the deer, which encouraged them, and they hurried right off to take the trail. We never did learn the outcome of that deer hunt, for we got out of there pretty shortly. This new gang had killed five quail on the way in, shooting into a bunch which they saw along the road.

An automobile can travel pretty fast when the right man is at the wheel, and in a little better than an hour we were back in the vicinity of Las Cruces. Now, some-

body had told Mr. Medinger of a water hole near a little town sixty miles to the north of Cruces. We headed for that town and that water hole, along a perfect concrete highway. We looked up the man who knew about the quail, but he couldn't go with us. He told us where to find the pond—eight miles out of town to the west. Of course we went out there, following directions as well as we could; but devil a pond could we find, though we drove out one road for ten miles and back on another; then criss-crossed. At last we ran onto a Mexican boy, and he pointed out just where the pond was, on the other side of the railroad track. All right now; at last we were on the way, with plenty of time to make a bag, provided not less than five hundred quail were to be found in the immediate vicinity of that pond, as we had been assured. What did happen was that we could find no place to cross the railroad; two fences in the way, and a deep cut besides. We drove along, mostly over the prairie, looking for a place where some country road would cross the track, but not finding any until we got nearly back to town. Disgusted by this time, persuading ourselves that like as not the pond wouldn't have furnished any quail anyhow, we drove straight through town and thirty miles back towards home, where we knew there were some quail along the Rio Grande River, having seen them when dove shooting.

It was mid-afternoon now, and our time getting shorter. Along the river where we stopped and drove in among the cottonwoods, the cover was fine for quail, but not so good for us unless we had worn thorn-proof breeches. The whole Rio Grande bottom was covered with mesquite from eight to fifteen feet high, and plenty thick. However, we only had one quail, and in we went. The boys and Buck got ahead of Mr. Medinger and me. We saw them put up a bevy on the banks of the river, from which they must have dropped several, for Buck was bringing birds out of the water. That bevy flew across the river, and what should the boys do but pull off their shoes and wade across. Mr. Medinger and I decided that we had more sense than to wade the chill waters of the Rio Grande in midwinter, or maybe we were a little too old for the job. Presently we heard a steady banging of guns on the far side, and knew our youngsters were getting birds.

The old fellows were going to stay right where they were on dry land, even if it was thorny land. If one bevy had been in those thickets, why not another. Sure enough, by and by we found one, which the old setter pointed like a gentleman, with the quail lying like gentlemen also. This bevy proved to be Gambel's quail, and each of us killed one. Now I had been of a mind that when those birds got up I would fire at least three shots with the pump gun before they could get out of range. Gun failed to function for the second shot. The bevy left the mesquite brush, and winged across the road and right out on the open prairie. They had winged off in a compact body, and alighted in a close group, each small quail turning a wing into the air to break his speed, and fairly plunging into the side of a hill. It appeared a beautiful opportunity to kill quail, as we hurried forward.

Old Cute pointed right where those birds had alighted, but couldn't start a single one of those black-capped fellows in front of him. The dog trailed slowly forward, very careful not to flush anything. He need not have



The Author caught in action

worried about that. I stayed with the dog, momentarily expecting a rise. Joe knew his quail better, so made a detour to come out on top of the hill a hundred yards in advance. He apparently got right among 'em, and shot as they arose, or as some of them did. I saw a bird fall, and here came a half-dozen winging back to the mesquite. Those birds should have been easy, and I killed one with the first barrel, gun balking me when I tried to repeat. Again, now beating toward us, Mr. Medinger flushed birds and killed one, and here came several more for me. I killed a bird well in front, meaning to get more as they went by. Gun balked me on the second shot, but I pumped again, firing at the retreating birds. No result with that last shot. I didn't know it then, but those were not only the first, but also the last quail I killed that day. Joe had three altogether, which was his bag for the hunt.

Of course we watched right where the quail went, back in the mesquite, but Joe shook his head about finding them exactly where they had alighted. We didn't find them where they should have been, or anywhere else, though we went up and down cattle trails through the brush for the next half hour, with the old dog occasionally coming to a stand, from which nothing could be flushed. Then we went back to our seat on the running board of the car. Out on the river, fifty yards distant, the mergansers were like school boys just let out for recess. The river made a curve right there, the water was still and deep, and I suppose it had fish in it. The whole flock, maybe twenty of them, would be resting on the water, when one would stand up on his tail-end, flap his wings, and down would go the whole set of them. They would come up wide spread, every fish duck seemingly having taken his own

direction under water. I expected some of them to come up with fish in their sawbills, but if any fish were caught they must have been swallowed under the water.

Mr. Medinger had seen what had happened when I tried to get off a second shot, and it all merely confirmed views he had previously held as to pump guns. It seemed he had once owned a Winchester Model 93, away back in Missouri thirty to forty years before, and he didn't like it. Hence the Parkers, which he did like.

"Guess I just wasn't brought up with a pump gun," Joe admitted. "That was away back in black-powder days, or I shot black powder anyhow, maybe because the shells were cheaper, and I had as much as I could do to buy any kind of shells then. Quail were thick in the Ozarks, with some 'pheasants'; I'd shoot into a bunch of quail, and a black cloud of smoke got right in front of my eyes. When I could see through the smoke the birds were so far away that I couldn't hit 'em. I saw you trying to make that pump gun repeat, and you couldn't work it, either. Now, take a double gun and you know darn well it is going to fire just as quick as you can pull the second trigger."

"That is a fact, Joe. Sometimes I wish that nothing but a double gun had ever been invented. It is a great gun, though, on ducks when they come in to decoys. The trouble today was entirely my own fault. I just had to improve on the work that the factory had done. You see this spring in here with the curved end on it standing out at right angles? That is a cartridge stop which keeps the shells from coming down onto the carrier when the gun has not been fired. Now I took a deal of pride in how fast I could shoot this gun, so bent that spring enough so that at the first movement of the slide the shell would come down, and I used to tell the factory that I could shoot this gun faster than an automatic. But what happened pretty soon was that now and then the shell would come out below the carrier, and drop to the ground. That wouldn't do, so I had to bend the spring back again. The result is that the cartridge stop works too well, and unless I fetch the handle back with a jolt, shell doesn't emerge from the magazine at all. That was what happened today when I got into a dickens of a hurry to get in the second shot. Now, let me show you that the gun will repeat."

I took up the twenty-bore, and, putting a finger on the trip, worked the gun so rapidly that the shells flew out faster than you could count—probably the whole five in a second. Putting the shells back I then retracted the slide handle lightly, and no shell came out of the magazine at all. "Not set just right, Joe, you see."

"Yes, I see. But a darned jack-leg quail shooter like me would be sure to work that pump wrong. Maybe I could get it right after while, but the old Parker doesn't have to have anything done to it to make it shoot and kill, except aim it. I mean to stick to the Parker."

"Been thinking I had better myself, Joe. I have a good over-and-under Browning, and the next time that gun goes with me."

"I'll bet you do better with it. You have to get used to these quail, but we all expected you to show us up today, and now these boys of ours will show us both up, just judging by the noise they made."

Joe picked the pump gun up and sighted it, after setting the safety. "Bit too straight for me," he declared. "I am

used to a 2¼-inch drop, and see too much of the front end. Guess I'd shoot too high."

"It doesn't shoot too high, Joe, for me. Matter of fact, I sent it to a gunsmith and had it pitched to shoot four inches higher, so as not to undershoot doves and ducks. Don't know about driving birds."

We heard the boys coming back on the other side of the river. Presently they were wading across, Charles, Jr., carrying Buck. On our side we saw a great bevy of Gambel's quail in the air, coming directly for us. Mr. Medinger had not seen them, but I thought he had, and grabbed my gun. This was the chance I wanted with the pump. Not fired at, the birds were coming in a compact bunch through an opening in the cottonwoods. I knew these birds rarely flared or altered their course, and they were heading to pass within fifty feet. Passing birds were always the easiest for me, so I meant to take these as incomers, twenty yards in front, then one shot about even, and a third as they went away.

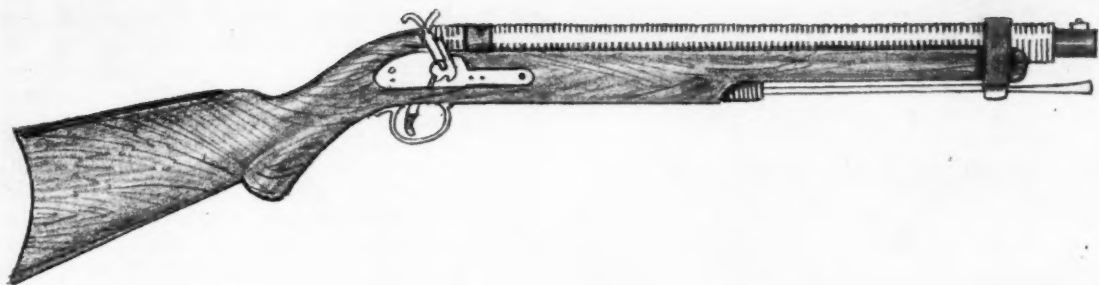
I waited, gun up, picked the spot in the ranks where the first shot was to land, aimed, and pulled the trigger just as planned, but didn't pull hard enough and the gun failed to fire. Even with me now, and I swung on and pulled again, but to my mind didn't pull hard enough yet. No report. As they went away I tried again, pulling hard, but the gun wouldn't fire. It had all happened pretty fast, but at last I understood. Mr. Medinger had set the safety when handling the piece, and I had forgotten that. Joe was very regretful when he heard me cussing the safety, but of course he wasn't to blame. Anybody except myself would remember that he had a safety on his gun, but I had the habit of never putting my gun on safe, from the time I left home in the morning until I got back at night. Half of my guns have no safety on 'em.

The quail had alighted in dense mesquite within fifty yards. We went after them at once, old Cute with us. Not a bird had we found when the boys came up and joined in the hunt. The whole set of us, hunting carefully and widely, never disturbed a feather. It was getting toward sunset and we gave it up, loading up dogs and guns and starting for home. The boys had killed nine quail, they said, so our bag amounted to more than a dozen, anyhow.

We were bowling along pretty content, trials and tribulations forgotten, boys in the back seat, while I rode with Mr. Medinger. The sun had gone back of a high mountain to the west, shadowing everything, the mesquite black. Ducks were flying along the river, and I always could see ducks. All of a sudden, being in the best position to see, with Mr. Medinger watching the road, I saw quail just in the edge of the grass; saw more and more of them until a great bevy was in sight, scattered along for twenty or thirty feet, some of them plain in the open, some partly hidden by thin cover. Every little blackheaded bird was standing erect, perfectly motionless, not in the least afraid of any old automobile. Mr. Medinger stopped as quickly as he could. I was the first man out, but the boys were right after me. Birds were now back of us thirty yards.

While we were standing in the road waiting for everybody to get ready and line up, what should happen but another bevy of quail appear, coming out into the road thirty yards in front of the car. They took across the

(Continued on page 36)



Author's sketch of the gun from memory

MY FIRST GUN

By MARK B. BURNHAM

NOTE: This simple little narrative will have an especial appeal for those true gun-lovers and mechanics who have not forgotten their own boyhood days. What ingenuity and resourcefulness young Burnham displayed in making his first real gun! And is it any wonder that a sympathetic and understanding teacher wished to have one of these guns "to keep always"? Upon growing up Mr. Burnham became a gunsmith—though, in strict accuracy, we would say that he had been born one.—Ed.

ABOUT THE FIRST THING I ever really wanted was a pocket knife. I wanted one before I had a pocket to put it in, and the next thing I wanted was a gun. As my parents lived in the city I had to do without a gun, but I wanted one and made up my mind that I would get one as soon as I could save up enough money to buy it, and my parents would consent to my having a gun. But money was hard for a boy to get in those days. About all he could find to do was an occasional errand or an odd job or two, so I never did much in the way of getting enough money—or my parents consent either, for that matter. When I was about nine years old someone gave me an old air gun. It was broken, but it was a gun, and I prized it so highly that I carried it to bed with me at night. I kept it a long time, but it would not shoot and it utterly failed to satisfy my longing for a gun—a real gun.

When I was about eleven my father died, and my mother moved out in the country to be near her sister; and I saw my first real gun! It belonged to my uncle, and was an old Belgium double-barrel hammer-model twelve-bore shotgun. It hung on the wall from a couple of brackets made from tree branches, and I used to stand and admire it, and long to hold it in my hands and to shoot it. How well I remember that it had a stock of very dark wood, all carved and ornamented with a deer's head and equipped with an iron buttplate. I had heard of guns all my life, and seen pictures of them in mail-order catalogs; but here was the first gun that I had ever seen.

When I was about twelve years old, my older brother bought a long-barrel single Fulton twelve-bore shotgun, and this was the first gun I ever shot. I remember the incident as well as if it were yesterday. My brother put a page from an old almanac up on the trunk of a large oak tree. I stood about fifty or sixty feet away, put the old gun to my shoulder, closed one eye, aimed carefully at the paper, closed both eyes, and pulled. Nothing happened; the gun had a very rough trigger-pull, and would sometimes stick. My brother eased the hammer down, cocked the gun again, and handed her back to me. I aimed again, clenched

my teeth, closed my eyes, and pulled again. It seemed to me I must have pulled about fifteen pounds on that old trigger before she let off, but when she did she spun my seventy-five pounds around and deposited the seat of my home-made overalls in the sand about ten feet from where I thought I was. Boy! but that was the happiest moment of my life. I had shot a real gun, and hit, too, for I had put as many as fifteen or twenty No. 10 shot into that paper. Those were good days. I would go hunting with my brother, and help him try to find the jay birds, rice birds, or whatever we could find for him to shoot at.

I wanted a gun of my own, but did not have any luck, and when I was about thirteen or fourteen, I decided to make one for myself. I had always been pretty handy with such tools as were available for my use; a buck saw, axe, clawhammer, shoe last, a pair of tinner's shears, saw file, a blacksmith's center punch, a brace and four old wood-boring bits, a small plane, a draw knife, and of course my chief tool—a pocket knife.

I did not have any material except what is to be found around any ordinary share-cropper's farm. Ours did not have the regular country blacksmith's shop. We had no shop of any kind, no work bench or vise, nothing but the bare ground and a board fastened between two trees and used on wash days as a wash bench. Not much to work with, but nevertheless I determined to make for myself a real gun that would shoot and kill game.

My first consideration was of course a barrel for my gun. We had in the house an old umbrella frame, the rod of which was a metal tube about the size of a .25-caliber bullet on the inside. This was a pretty thin-walled tube I thought for a gun barrel, but it was all I could get, so it had to do. I decided that my gun would have to be a muzzle-loader, as I had no way or material for making a breech-loading mechanism. Even if there had been enough metal in the barrel to chamber for the shell, I had no tools with which to do it, so muzzle-loader it had to be.

My first problem was to close the breech end of the tube, after I had filed off the upper and lower sections of

the umbrella rod at the points where the springs that hold the umbrella open and closed are located. This gave me a tube about 18 or 20 inches long, and to close the breech end of my barrel I drilled a hole through both sides at a point about $\frac{1}{4}$ -inch from the end; then again at a point about $\frac{3}{4}$ -inch from the end, and at right angles to the first holes, I drilled another hole through both sides. Through these holes I put cross-pins made from a piece of old bed spring—and good stiff steel wire it was, too. Then I upset the ends of the cross-pins, forming rivets. Seen through the barrel they looked something like the cross-hairs in a scope, only of course much thicker. When this was finished I fitted a wooden plug in the muzzle, and pushed it down to within $\frac{1}{4}$ -inch of the first cross-pin. Now I needed something to pour into the breech to form the permanent plug. I thought lead would be too soft, so I melted up a zinc fruit-jar lid, and poured the molten zinc into the breech. When it cooled I drilled out the wood plug with a flattened wire, upset my zinc breech plug slightly to make it gas-tight—and the job was done.

I knew that my barrel was too thin for safety, so I hit upon a scheme to greatly strengthen it. I bored a hole through the edge of the flooring on the porch, then caught the breech end of my barrel in the jaws of the brace, and pushed the barrel down through the hole in the floor. I had some twenty feet of wire, about the size of baling wire—or roughly, about the size of these fancy round tooth picks you see nowadays. I riveted one end of the wire to the breech part of my gun barrel, up close to the jaws of the brace; the other end of the wire I fastened to the end of

a heavy section of log which I had rolled into position for the purpose. Now all I needed to do was to turn the brace, and the wire was wound very tightly around the tube, from breech to muzzle; for the log must have weighed as much as three hundred pounds, and the wire dragged it end-wise over the ground. I had previously filed a hole in the tube at the muzzle, and when the winding wire reached this point I riveted it to the tube, using a large nail inserted in the tube to spread the copper rivet. This gave me a strong barrel, closed at the breech. I had filed a flat spot on the tube close up to the front end of the breech plug, and with the sharpened end of my file I carefully drilled a small hole at this point. This was to serve the same purpose as the primer nipples on ordinary muzzle-loaders.

Next I needed a stock for my gun. I secured a large chestnut fence rail (from the pasture fence). This I chopped and whittled into what I considered a gun stock; and it was, for it looked mighty good to me. Anyway, I made it just like the stock of a regular muzzle-loader, with the wood extending all the way out to the muzzle, and a full pistol grip, comb, and curved butt. The next job was to let the barrel in; that is, fit the barrel into the wood fore-part of the stock. When this was done I fastened the barrel with metal bands made from part of a bucket hoop.

Now I needed a lock, and some kind of flash-pan. To make the flash-pan, I put a $\frac{1}{4}$ -inch hole in a strip of cotton tie, or hoop iron as it is sometimes called. I placed this strip around the breech end of the barrel in such a way as to bring the priming hole in the barrel in the center of the $\frac{1}{4}$ -inch hole in the metal band. This made a sort of pan or receptacle that would hold a few grains of powder.

Now came the mechanical part of the lock. This I made from hoop iron, heavy wire, and window-shade-roller spring. The construction is somewhat difficult to describe, but the illustrations should make everything clear. It will be seen that the hammer consists of two separate parts, the part made from flat iron comprising the spur and carrying the sear notches; while that made from heavy wire is bent across the barrel to strike the flash-hole, and also serves as the "tumbler shaft." The flat metal under the spur is bent around the wire piece, to fasten the two together. (I might mention that the lock illustrated is not the original one, but is a model I made up to be photographed for this article.) I also made a hoop-iron trigger guard. I mounted the completed lock on my gun in the regular manner. I could draw the hammer back, pull the trigger, and it would snap in a most satisfactory manner.

Now, with a ramrod, and groove and thimbles to receive it along the underside of the fore-stock, my gun was complete.

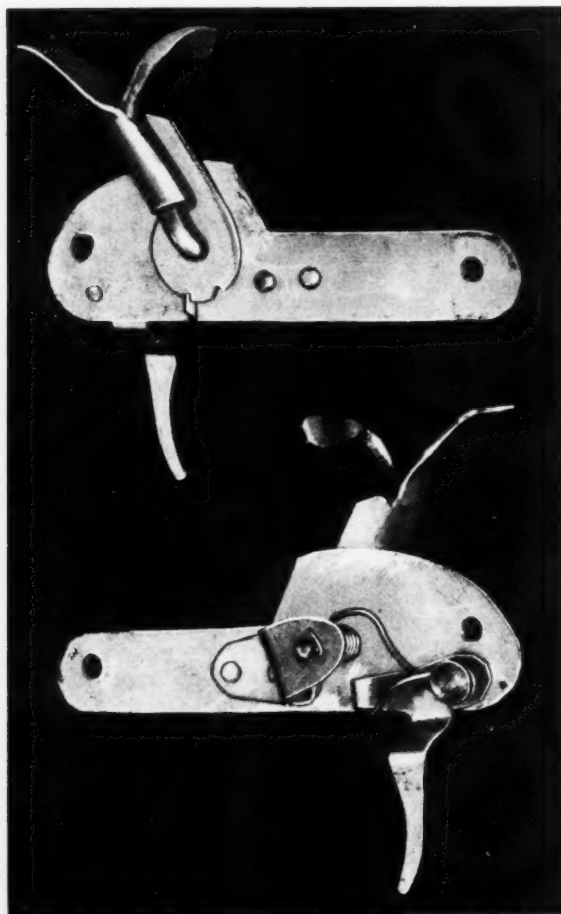
To obtain shot and powder, I traded eggs at the country store for gun shells. These I opened, placing the powder in one small can, and the shot in another. [This of course was black powder—not smokeless.—Ed.]

Now I needed some kind of a primer—"caps" we called them for the muzzle-loaders. In those days we used the old cheap, noisy matches in the kitchen, and the round head of one of these matches made a dandy cap, as any boy of that period would testify.

I knew that my gun would stand an ordinary load for its size, and to prevent overloading I made a spoon of hoop iron to hold just the right amount of powder, and another for the shot charge. To load, I would pour in the powder charge, ram the paper wadding on top of it, pour in the shot, wad it down, place a match-head primer in the pan—and she was ready to go.

Before I held this gun and shot it myself, I tried it first lashed good and tight to a low limb on a peach tree. I had

Front and back views of lock model



RECRUITING THE RANKS

By E. R. SIZER

THE ARTICLE in the August RIFLEMAN by P. H. Manly is good and very much to the point, and more riflemen should take a hand in the business of making new friends for the shooting game.

We see articles in every issue of the RIFLEMAN concerning a new gun some member has constructed, some bullet that seems to fill a useful niche, or a particularly handsome piece the amateur gunmaker has turned out. There is satisfaction in seeing the results of one's efforts in any line, but particularly is there pleasure in seeing a young man (or woman) become a skilled expert, when you have had some small part in building up and maintaining their interest to the point that kept the young person trying until he succeeded in making a good shot out of himself, and became a genuine gun-bug.

Even if the larger part of the youngsters never stick to it until they reach that goal, the few that do are enough to compensate for the work you put in, and you also know that the others will grow up and some day be voters, and if the time comes when riflemen need friends at the polls, they will be on the right side of the fence.

Although the writer is compelled to discontinue Junior Rifle Club work, the many friends made while engaged in this work are a great reward, and the satisfaction of seeing these young people develop into champions as they proceed along the way, is compensation enough for the time spent and the self-denial involved.

For the benefit of others who might like to engage in the fascinating work of developing young shooters, let it be said that the procedure is simple, as far as the National Rifle Association is concerned; and if the local details can

it loaded with two spoonfuls of powder, and a double charge of shot. I tied a long string to the trigger, stood off behind the hen house, and pulled. I heard her go "Snip-bang!" I had felt pretty certain she was O. K., but wanted to be sure. Well, I looked her over, and she was O. K.; and you can just bet I felt pretty proud of myself about then.

I went hunting for sparrows and other small game every day, and up to thirty or forty feet that little gun was poison. And one twelve-gauge shell would provide about fifteen loads.

This gun was so successful that I made one for my younger brother, and we used to have some good times together, shooting small game. Sometimes we could find a rabbit sitting under a clump of broom sage, and when we did, it was good-bye Mister Rabbit. A charge of small shot fired point-blank would not smash the rabbit, but would neatly dispatch him.

I remember when we discovered that the heavy oak door of the corn crib was full of .22 bullets. Someone in the past had fired them at the door with a gun that was in



be worked out, a Junior Club can be started most any place, if enough youngsters can be found who are interested. And it is usually not hard to interest them in shooting.

The Lincoln High School Rifle Clubs, of Tacoma, Washington, were organized in 1928, with a membership of nearly a hundred, and after obtaining consent of the School Board, and arranging for a place to shoot, guns were obtained from the Director of Civilian Marksmanship, through the Secretary of the National Rifle Association, Junior Rifle Corps. And with the usual ups and downs, trials and tribulations, they are still going strong. They have been the inspiration for the organizing of Junior Clubs at Stadium and Bellarmine High Schools, where many expert riflemen have been developed in the past few years; and inquiries received from towns round about have resulted in several other clubs being started.

Col. I. W. Kenney, Washington State Secretary of the National Rifle Association, was of inestimable value in helping to organize, and in instructing the girls' Rifle Club at Lincoln. He made the trip in from Camp Murray many a night in stormy weather, and many expert shots were the result of his efforts. The state champions were developed under his coaching.

For the man or woman who is interested in kids, and in the shooting game as a whole, there is no better field than that to be found in the organizing and coaching of Junior Riflemen.

bad order, for they had barely penetrated the wood, and were easily picked out. We salvaged these, upset them, and rolled them with a piece of iron to make them round again. Our smooth-bore guns would handle these bullets pretty well, but of course we were not at all fussy about accuracy. We usually shot these at tin cans, anyway, saving our shot for game.

I have owned plenty of guns since then, but never have I had one that gave me the joy that one did. My school teacher heard of the guns I had made, and came two miles to my home to see them. I, being always a shy, modest sort of a boy, ran off, but my brother proudly showed her both his gun and mine; and she was so interested in the work that she asked my brother to try to get me to make her a gun, to keep always. I did it, and as far as I know she has that gun still—though that was many years ago.

NOTE—I would not advise any boy to try to make a similar gun without the help of an experienced gunsmith. I got by, but the next one might not be so lucky. And, moreover, I was using old-fashioned black powder. Modern smokeless would never do.

Winners of State Medals in

STATE	Members Trophy	Navy Cup	Crowell Trophy	Wright Memorial	Marine Corps
ALABAMA	Hubbard, L. W., Jr.	Pollard, J. C.	Sellers, E. E.	Sellers, E. E.	Hanna, W. J.
ARIZONA	Kellogg, Riley	Benko, A.	Imler, T. J.	Benko, A.	Benko, A.
ARKANSAS	Adams, B. F.	Adams, B. F.	Crawford, Z. L.	Thibault, F.	Thibault, F.
CALIFORNIA	Cantell, D. M.	Patterson, G. A.	Plummer, H. H.	Roberts, P. J.	Adams, H. J.
COLORADO	McLain, U. E.	Olson, E. A.	Lovell, H. A.	Olson, E. A.	Olson, E. A.
CONNECTICUT	Pedersen, P. E.	Halb, F. F.	Burns, C., Jr.	Bamford, G. A.	Dorsey, F. E.
FLORIDA	Wolf, Robert	Price, A. B.	Bridgland, T.	Wolf, Robert	Abel, N. D.
GEORGIA	Evans, R. R.	Sappington, M. H.	Andrew, R. L.	Norman, J. A.	Latham, J. C.
IDAHO	Abraham, G. R.	Swendsen, H. J.	Jorgensen, C. D.	Ritzheimer, E.	Abraham, G. R.
ILLINOIS	Curtis, B. C.	Poe, P. E.	Otis, W. H.	Linker, A. E.	Youngberg, L. W.
INDIANA	King, R. W.	Zornes, C.	Schneck, R. E.	Nordhus, C. E.	Hurt, J. W.
IOWA	Kaufman, W. T.	Payne, J. D.	Johnson, G. F.	Lamml, W. T.	Payne, J. D.
KANSAS	Bennett, G. A.	Hughes, K. A.	Smiley, W. A., Jr.	Smiley, W. A., Jr.	Trapp, R. O.
KENTUCKY	Platt, B. H.	Rose, Joe	Waggoner, J.	Rose, Joe	Barrett, D. W.
LOUISIANA	Woods, D.	Decker, W. H.	Thibodeaux, R. G.	Landwehr, R. L.	Thibodeaux, R. G.
MAINE	Huntington, C.	Gautier, Don	Livingston, Wm.	Livingston, Wm.	Livingston, Wm.
MARYLAND	Stevens, C. D.	Spicknall, W. L.	Ives, H. D.	Spicknall, W. L.	Wiltamuth, L. S.
MASSACHUSETTS	Hicks, F. J.	Jones, J. G.	Donaldson, H. G.	Jones, J. G.	Clapp, R. L.
MICHIGAN	Malmstrom, V. F.	Cochran, J. C.	Boerem, R. D.	Boerem, R. D.	Whitney, J. C.
MINNESOTA	Swanson, E. O.	McNerney, T. L.	Swanson, E. O.	Nemitz, L. A.	Hamer, Vere
MISSISSIPPI	Brown, J. F.	Dawson, J. T.	Shipman, W. S., Jr.	Gilbert, O. M.	Gilbert, O. M.
MISSOURI	Anderson, E. E.	Schroeder, W. M.	Schroeder, W. M.	Lenney, J. F.	Schroeder, W. M.
MONTANA	Gilbertson, G. L.	Taylor, C. L.	Harlow, P.	Edmonds, S. C.	Gilbertson, G. L.
NEBRASKA	Norregard, G. M.	Cattle, J. W.	Lamml, A. T.	Lamml, A. T.	Johnson, R. L.
NEVADA	Barrett, J. W.	Stoker, L. D.	Dodge, M. O.	Archibald, J. J.	Barrett, J. W.
NEW HAMPSHIRE	Redden, K. S.	Redden, K. S.	Jones, H. W.	Skoog, A. W.	Robinson, M.
NEW JERSEY	Sherman, B. G., Jr.	Jury, M. A.	Jury, F. J.	Gaynor, G. A.	Gaynor, G. A.
NEW MEXICO	Wright, Paul	Stewart, E. L.	Fritz, M. H.	Wright, Paul	Harrington, P.
NEW YORK	Greenfield, W. A.	Manin, H. A.	Lutz, H. M.	Evans, B. A.	Mason, Chas.
NORTH CAROLINA	Floyd, J. E.	Warren, E. H.	Riggan, J. G.		Earnhardt, W.
NORTH DAKOTA	Meister, W.	Zimmer, E. C.	Girard, M. S.	Thompson, V.	Wanner, F.
OHIO	Bender, L. B.	Coleman, E. H.	Andrasik, J.	Tingle, C. C.	Ringelspaumig,
OKLAHOMA	McDaniel, H. C.	Shaffer, W. L.	Williams, C. L.	Hall, J. W.	McDaniel, H. C.
OREGON	Luebben, H. D.	Upshaw, G. M.	Tuttle, S.	Upshaw, G. M.	Bjornevik, D. C.
PENNSYLVANIA	Kadak, E. H.	Nelson, R. L.	Smith, A. J. E.	Kephart, C. I.	Sweger, W.
RHODE ISLAND	Anderson, J. F.	Mendenhall, J.	Fritz, J. R.	Fritz, J. R.	Marcello, A.
SOUTH CAROLINA	Powell, M. L., Jr.	Stewart, J. R.	Martin, R. H.	Powell, M. L., Jr.	Covington, A.
SOUTH DAKOTA	Nelson, N. A.	Chapman, S. C.	Lyman, S. D.		Lampe, E.
TENNESSEE	Brummitt, L. L.	Clark, W. A.	Abernathy, S. E.	Jackson, J. C.	Jackson, J. C.
TEXAS	Hooper, P. L.	Hooper, P. L.	Moore, Jack	Alexander, R. H.	Morgan, J.
UTAH	Hogan, G. C.	Hogan, G. C.	Thomas, R. M.		Hogan, G. C.
VERMONT	Rogers, C. H.	Rogers, C. H.	Moore, L. F.	Audette, C.	Cram, R.
VIRGINIA	Strailman, G. T.	Dinwiddie, M. W.	Moore, J. W.	Walsh, W. R.	Walsh, W. R.
WASHINGTON	Taylor, L. B.	Naimy, J. A.	Naimy, J. A.	Brewer, D. D.	Johnson, C.
WEST VIRGINIA	Sterling, D. G.	Talkington, P. D.	Gray, H. H.	Webb, P. L.	Gray, H. H.
WISCONSIN	Emerson, R. J.	Haynes, R. W.	Emerson, R. J.	Haynes, R. W.	Emerson, R. J.
WYOMING	Earl, J. L.	Nauman, A. A.	Shafto, P. D.	Haugum, J. J.	Haugum, J. J.
ALASKA	Leonard, G. H.	Andrews, W.	Garrett, L.		Osborn, J.
DIST. OF COLUMBIA	See, H. S.	Fondahl, J. E.	Tanner, J. D.	Hankins, J. F.	Hankins, J. F.
HAWAII	Yee, Sam	Yee, W. Q.	Keiek, W. F.	Keiek, W. F.	Anderson, G.
PANAMA	Joyce, A. J.	Joyce, A. J.			
PORTO RICO	Izqueirdo, O. M.	Quinones, M.			Rivers, Asundoz

A GOOD SCOPE OUTFIT

By BYRON E. COTTRELL

WE HAVE SO many new scopes and mounts these days that one hardly knows which to get; yet some are better suited to certain rifles than others. A year ago I had Andy Sorensen fit a new Unertl 3X hunting scope to my Niedner Mauser, using Sorensen's "Springboard" mount. As this mount carries both elevation and windage adjustments, I ordered the scope without either—at a reduction of eight dollars in the price.

I have never seen or used a better scope. The lenses are made from the very finest quality of Jena optical glass; and in optical quality they are comparable to the new Bausch & Lomb binoculars. If you have looked through a pair of these new glasses you will know exactly what I mean. The definition is so clear that you would not know you were looking through a glass if it were not for the magnification. The reticule is a straight flat-top post of medium width, with a cross-hair about three minutes of angle below the top. It is focused for the eye by turning

the eyepiece, and has plenty of latitude to suit all eyes. The adjustment is held by a locking ring. The scope is fitted with metal screw-caps at either end, the same as a target scope. This gives the lenses perfect protection in transportation or storage. For protection when hunting in bad weather I use a rubber cover made from a small inner tube. It can be removed quickly, keeps snow and rain off the lenses, is of no value as regards cost, and extras can be carried in the pocket.

This scope is furnished in either 2½- or 3-power. For woods hunting the 2½X would be the better, as it gives a wider field and greater illumination; but if the scope is to be used for long-range shooting or small game I would prefer the 3X, or even a 4X. This scope can also be had with internal elevation adjustment if desired.

The Sorensen mount has been described in the Dope Bag, but I am showing pictures of it, and will give a description. The mount is attached to the rifle by means of a barrel block, and a base on the side of the receiver in place of the Lyman 48 sight. The Lyman 48 can also be used for the rear support, and this is what I did. On a Winchester Model 54 or 70 the barrel block is attached to the rear barrel-sight slot, and there are no alterations whatever to be made in the rifle. On my Mauser there was no barrel slot, and it was necessary to attach the barrel block with two screws, the same as target-scope blocks.

The scope is held in the rear cradle by spring tension. Elevation adjustment is obtained by a screw just in front of the scope, raising or lowering the front end. Also, a large amount of adjustment can be had by raising or lowering the slide at the rear. The windage adjustment is made on my outfit the same as on the Lyman 48, while Mr. Sorensen uses two opposing screws. Either method gives a fine adjustment, as the radius of adjustment is the entire length of the springboard, or base, which is nearly half the length of the iron-sight radius. Thus, half-minute clicks on the 48 give me just about full-minute clicks on the scope, which is close enough for any hunting rifle.

By having springboards fitted to several rifles, the same scope can be used on all; and after all mounts have been sighted-in, the scope can be changed from one rifle to another in less than five seconds. Thus one can buy one good, high-grade scope for use on several rifles.

I have fired more than five hundred rounds of full-charge ammunition in this rifle since the scope was fitted, and I have never found any change in sight adjustment necessary. I use this outfit to test the accuracy of lead-bullet loads intended for use on the club range, and it has fired a great many reduced loads. The rifle was used every day during the past bear season, and many days during the deer season, by either myself, my wife, or some other member of our party. It was carried in some rough country and saw hard service, yet after the close of the season it placed its group in the center of the black. I can recommend this combination to anyone who wants the best for a moderate outlay of cash. The cost of this scope without elevation adjustment is \$27.00, and the mount \$12.50, making the total just under \$40.00.

American-made hunting scopes of the very finest optical qualities are, in my opinion, the Unertl, the Noske, the Belding & Mull, and the new Lyman. To date I have not seen the new Weavers, but believe they are very fine.



PISTOL-PERMIT LAWS

Under the newly enacted Federal Firearms Act it is necessary for any dealer selling a firearm to an individual residing in any state which requires a permit to purchase that type of firearm to abide by those state laws before completing the sale, even though the seller may live in a state which does not require such a permit. This point is covered by section 2-c of the new law (Public Act 785, adopted June 30, 1938) which reads as follows:

"It shall be unlawful for any licensed manufacturer or dealer to transport or ship any firearm in interstate or foreign commerce to any person other than a licensed manufacturer or dealer in any state the laws of which require that a license be obtained for the purchase of such firearm, unless such license is exhibited to such manufacturer or dealer by the prospective purchaser."

At the present time this provision will affect the sales of firearms made by licensed dealers, by mail, to persons living in ten states: Massachusetts, Michigan, Missouri, New Hampshire, New Jersey, New York, North Carolina, Rhode Island, South Carolina and Texas; and two territories: Hawaii and Porto Rico.

The National Rifle Association has prepared the following digest of the permit laws of these states for the benefit of members residing in these states as well as for dealers making sales to persons living in them.

The digest shows, for each state, the legal description of the arm covered by the law, the procedure specified for securing a permit to purchase such a firearm, and the duties of the seller in respect to the permit which the purchaser presents to him.

This digest includes only laws enacted prior to October 15, 1938, and is subject to change after that date. Any question about the interpretation of any portions of these state laws should be taken up directly with the administering official listed in the act.

MASSACHUSETTS

I. Arms covered:

Chapter 140, Section 121 (as amended).

In sections one hundred and twenty-two to one hundred and twenty-nine, inclusive, "firearms" includes a pistol, revolver or other weapon of any description, loaded or unloaded, from which a shot or bullet can be discharged and of which the length of barrel, not including any revolving, detachable or magazine breech, is less than eighteen inches, and a machine gun, irrespective of the length of the barrel.

II. License to purchase:

Chapter 140, Section 131 A.

A licensing authority under the preceding section, (the justice of a court or a trial justice, the board of police or mayor of a city, the selectmen of a town, or the commissioner of public safety, or persons authorized by them) upon the application of a person qualified to be granted a license thereunder by such authority, may grant to such a person, other than a minor, a permit to purchase, rent or lease a pistol or revolver if it appears that such purchase, rental or lease is for a proper purpose, and may revoke such permit at will. Such permits shall be issued on forms furnished by the commissioner of public safety, shall be valid for not more than ten days after issue, and a copy of every such permit so issued shall within one week thereafter

be sent to the said commissioner. Whoever issues a permit in violation of this section shall be punished by imprisonment for not less than six months nor more than two years in a jail or house of correction.

III. Duties of seller:

Chapter 140, Section 123 (as amended).

The license (dealer's license) shall be expressed to be and shall be subject to the following conditions:

Second, That every licensee shall before delivery of a firearm make or cause to be made a true entry in a sale record book to be furnished by the licensing authorities and to be kept for that purpose, specifying the description of the firearm, the make, number, whether single barrel, magazine, revolver, pin, rim or central fire, whether sold, rented or leased, the date and hour of such delivery, and shall, before delivery as aforesaid, require the purchaser, renter or lessee personally to write in said sales record book his full name, sex, residence and occupation. The said book shall be open at all times to the inspection of the licensing authorities and of the police.

Seventh, That no delivery of a pistol or revolver shall be made on the day of application for the purchase, rental or lease thereof, except to a person having a license to carry the same issued under section one hundred and thirty-one.

Eighth, That no pistol or revolver shall be sold, rented or leased to a person who has not a permit, then in force, to purchase, rent or lease the same issued under section one hundred and thirty-one A, and that no machine gun shall be sold, rented or leased to a person who has not a license to possess the same issued under section one hundred and thirty-one.

Ninth, That upon a sale, rental or lease of a pistol or revolver, the licensee under section one hundred and twenty-two shall take up such permit and shall endorse upon it the time and place of said sale, rental or lease, and shall forthwith transmit the same to the commissioner of public safety, and that upon the sale, rental or lease of a machine gun shall endorse upon the license to possess the same the time and place of said sale, rental or lease, and shall forthwith transmit a notice thereof to said commissioner.

MICHIGAN

I. Arms covered:

Section 1. Public Acts of 1927, No. 372.

The word "pistol" as used in this act shall mean any firearm, loaded or unloaded, thirty inches or less in length.

II. License to purchase:

Section 2. Public Acts of 1927, No. 372.

No person shall purchase a pistol as defined in this act without first having obtained a license therefor as prescribed herein. The commissioner or chief of police, or his duly authorized deputy, in incorporated cities or in incorporated villages having an organized department of police, and the sheriff, or his authorized deputy, in parts of the respective counties not included within incorporated cities or villages, are hereby authorized to issue licenses to purchase pistols to applicants residing within the respective territories herein

mentioned. No such license shall be granted to any person except he be nineteen years of age or over, and has resided in this state six months or more, and in no event shall such a license be issued to a person who has been convicted of a felony or adjudged insane in this state or elsewhere. Applications for such licenses shall be signed by the applicant under oath upon forms provided by the commissioner of public safety. Licenses to purchase pistols shall be executed in duplicate upon forms provided by the commissioner of public safety and shall be signed by the licensing authority. One copy of such license shall be delivered to the applicant and the duplicate of such license shall be retained by such licensing authority as a permanent official record for a period of six years. Such license shall be void unless used within ten days after the date of its issue.

III. Duties of seller:

Section 2. Public Acts of 1927, No. 372.

Any person who shall sell to another any pistol as defined in this act without complying with the requirements of this section shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not more than one hundred dollars or imprisonment in the county jail not more than ninety days, or both such fine and imprisonment in the discretion of the court. Such license shall be signed in ink by the holder thereof in the presence of the person selling, loaning or giving a pistol to such licensee and shall thereupon be taken up by such person, signed by him in ink and shall be delivered or sent by registered mail within forty-eight hours to the commissioner of public safety. The seller shall certify upon said license in the space provided therefor the name of the person to whom such pistol was delivered, the make, style, calibre and number of such pistol, and shall further certify that such purchaser signed his name on said license in the presence of the seller. The provisions of this section shall not apply to the purchase of pistols from wholesalers by dealers regularly engaged in the business of selling pistols at retail, nor to the sale, barter or exchange of pistols kept solely as relics, souvenirs or curios.

MISSOURI

I. Arms covered:

Section 4433. Revised statutes of 1929.

Any pistol, revolver, or other firearm of a size which may be concealed on the person.

II. License to purchase:

Section 4433. Revised statutes of 1929.

Such permit shall be issued by the circuit clerk of the county in which the applicant for a permit resides in this state, if the sheriff be satisfied that the person applying for the same is of good moral character and of lawful age, and that the granting of the same will not endanger the public safety. The permit shall recite the date of the issuance thereof and that the same is invalid after thirty days after the said date, the name and address of the person to whom granted and of the person from whom such weapon is to be acquired, the nature of the transaction and a full description of such weapon, and shall be countersigned by the person to whom granted in the presence of the circuit clerk. The clerk shall receive therefor a fee of fifty cents.

III. Duties of seller:

Section 4433. Revised statutes of 1929.

No person, other than a manufacturer or wholesaler thereof to or from a wholesale or retail dealer therein, for the purposes of commerce, shall directly or indirectly buy, sell, borrow, loan, give away, trade, barter, deliver or receive, in this state, any pistol, revolver or other firearm of a size which may be concealed upon the person, unless the buyer, borrower or person receiving such weapon shall first obtain and deliver to, and the same be demanded and received by, the seller, loaner, or person delivering such weapon, within thirty days after the issuance thereof, a permit authorizing such person to acquire such weapon. . . . If the permit be used, the person receiving the same shall return it to the circuit clerk within thirty days after its expiration, with a notation thereon showing the date and manner of the disposition of such weapon. The circuit clerk shall keep a record of all applications for such permits and his action thereon, and shall preserve all returned permits. No person shall in any manner transfer, alter or change any such permit or make a false notation thereon or obtain the same upon any false representation to the circuit clerk granting the same, or use or attempt to use a permit granted to another.

NEW HAMPSHIRE

I. Arms covered:

Pistols and revolvers.

II. License to purchase:

Required of aliens and felons only. (See below)

III. Duties of seller:

No person shall sell, deliver or transfer a pistol or revolver to an alien or person convicted of a felony against the person or property of another except upon delivery of a written permit to purchase, signed by the selectmen of the town or the mayor or chief of police of the city. Before delivery, the purchaser shall sign a statement giving name, address, nationality, date of sale, and description of the weapon. The seller shall within 7 days sign and forward a copy to the chief of police or selectmen of the town. This section not applicable to sales at wholesale. Where neither party to the transaction holds a dealer's license, no person shall sell or transfer a pistol or revolver to any person not personally known to him.

NEW YORK

I. Arms covered:

Pistol or revolver.

II. License to purchase:

Section 1897, New York Penal Code, paragraph 8.

It shall be the duty of the police commissioner in the city of New York and of the Nassau county chief of police in such county and elsewhere of a judge or justice of a court of record in this state, upon application therefor, or by any householder, merchant, storekeeper or messenger of any banking institution or express company in the state, and provided such police commissioner, chief of police, judge or justice is satisfied of the good moral character of the applicant, and provided that no other good cause exists for the denial of such application, to issue to such applicant a license to have and possess a pistol or revolver, and authoriz-

ing him (a) if a householder, to have such weapon in his dwelling, and (b) if a merchant, or storekeeper, to have such weapon in his place of business, and (c) if a messenger of a banking institution, or express company, to have and carry such weapon concealed while in the employ of such institution or express company.

III. *Duties of seller:*

Section 1897, New York Penal Code, paragraph 12.

All licenses issued pursuant to the provisions of this section shall be in such form that there shall be attached to the body of such license a coupon which shall be removed and retained by any person who sells or otherwise provides the licensee with any weapon contemplated in such license. Any dealer or other person who sells, gives, or otherwise provides a person with any pistol, revolver or other firearm except upon the presentation, removal and retention of such coupon, shall be guilty of a misdemeanor.

NEW JERSEY

I. *Arms covered:*

Section 9. Chapter 321, laws of 1927.

No person shall sell a pistol or revolver to another person unless the purchaser has first secured a permit to purchase or carry a pistol or revolver.

II. *License to purchase:*

Section 9. Chapter 321, laws of 1927.

No person of good character and who is of good repute in the community in which he lives, and who is not subject to any of the disabilities set forth in other sections of this act, shall be denied a permit to purchase a pistol or revolver. The judge of any court within this State (except, however, justices of the peace), the sheriff of a county or the chief of police of a city, town or municipality shall upon application issue to any person qualified under the provisions of this section a permit to purchase a pistol or revolver, and the Secretary of State shall have concurrent jurisdiction to issue such permit in any case, notwithstanding it has been refused by any other licensing official, if in his opinion the applicant is qualified.

Applications for such permits shall be in form as prescribed by the Secretary of State and shall set forth the name, residence, place of business, age, occupation, sex, color, and physical description of the applicant, and shall state whether the applicant is a citizen, and whether he has ever been convicted of any of the crimes enumerated in section two hereof as defined in this act. Such application shall be signed by the applicant and shall contain as reference the names and addresses of two reputable citizens personally acquainted with him.

Application blanks shall be obtainable from the Secretary of State and from any other officers authorized to grant such permit, and may be obtained from licensed retail dealers. The application, together with a fee of fifty cents, shall be delivered or forwarded to the licensing authority who shall investigate the same, and unless good cause for the denial thereof shall appear, shall grant said permit within seven days from the date of the receipt of the application. The permit shall be in form prescribed by the Secretary of State and shall be issued to the applicant in triplicate.

III. *Duties of seller:*

Section 9. Chapter 321, laws of 1927.

The applicant shall deliver to the seller the permit in triplicate and the seller shall indorse on the back of each copy the make, model, calibre and serial number of the pistol or revolver, sold under the permit. One copy shall then be returned to the purchaser with the pistol or revolver, one copy shall be kept by the seller as a permanent record, and the third copy shall be forwarded by the seller within three days to the Secretary of State. If the permit is not granted, the fee shall be returned to the applicant. . . . Only one pistol or revolver shall be purchased or delivered on each permit.

NORTH CAROLINA

I. *Arms covered:*

"Pistol."

II. *License to purchase:*

Sections §107, §108, §109, Code of 1931.

The clerks of the superior courts may issue to any person, firm, or corporation a license or permit to purchase or receive a pistol. Applicant must be of good moral character and require weapon for protection of his home. The clerk shall keep a record of all licenses issued. Violation of any provisions a misdemeanor. Penalty: fine or imprisonment in discretion of the court.

III. *Duties of seller:*

Section §106, Code of 1931.

It shall be unlawful for any person, firm or corporation to sell, give away, or dispose of or to purchase or receive a pistol at any place within the state from any other place within or without the state, unless a license or permit shall have first been obtained by such purchaser or receiver from the clerk of the Superior Court of the county in which purchase, sale, or transfer is intended to be made. It shall be unlawful for any person to receive a pistol thru the mail or from an express agent or employe, railroad agent or employe, without exhibiting at time of delivery to the person delivering, the permit from the clerk of the Superior Court. Violation a misdemeanor. Penalty: fine of \$50-\$200, or imprisonment 30 days-6 months, or both.

RHODE ISLAND

I. *Arms covered:*

Section 1, Chapter 1052, laws of 1927.

Pistol shall include any pistol or revolver, and any shot gun, rifle or similar weapon with overall length less than twenty-six inches, but shall not include any pistol without a magazine or any pistol or revolver designed for the use of blank cartridges only.

II. *License to purchase:*

Section 6, Chapter 1052, laws of 1927.

The licensing authorities of any city or town shall upon application of any person having a bona fide residence or place of business within such city or town, or of any person having a bona fide residence or place of business within the United States and a license to carry a pistol concealed upon his person issued by the authorities of any other state or subdivision of the United States, issue a license to such person to carry concealed upon his person a pistol

BRIDGEPORT, CONN., NOV., 1938

Rifle Remington

"PALMA MATCH" AND "PALMA KLEANBORE" SHOOTERS WIN IN NINE STATES

Take 5 out of 7 events at Iowa State Match

CAMP DODGE, Iowa—Iowa shooters found Palma Match plenty hot at the Sixth Annual State Small Bore Tournament here. Emory Hawcock of Monmouth won the B. & L. Aggregate with 1190 x 1200. T. J. Holm of Des Moines turned in two firsts—in the 50-Yard any sights with 400 x 400 and 31 X's, and in the 50-Meter iron sights with 396. Oscar Hobbs won the 100-Yard any sights with 397 x 400, and Cortez Souter won the Dewar with 398 x 400. Webb Stump and his partner came out on top in the 2-Man Dewar, Webb shooting a Model 37 and Palma Match.

LANDET WINS 4 EVENTS AT INLAND EMPIRE MATCH

SPOKANE, Wash.—O. R. Landet of Anaconda, Montana, really went to town at the recent Inland Empire Match here, taking firsts in three individual events, and making half of the winning team in the "Buddy" Match. Landet used Palma Match or Palma Kleanbore in every event.

EATON STARS IN MONTANA

MANHATTAN, Mont.—"Palma Match" shooters took first, second, and third in every event at the recent Invitation Matches here, with E. Eaton of Belgrade leading the parade with four first places. Eaton, using a Model 37 rifle, won the 50-Yard any sights with 200 x 200 and 14 X's, the Dewar with 396 x 400, the 25-Yard standing event with 92 x 100, and with his partner, C. Long, won the Doubles event. Hugh Biggs of Belgrade won the 100-Yard event with 200 x 200 and 13 X's.

OTT WINS WISCONSIN TITLE

"Palma Match" shooter V. Ott took the Grand Aggregate and the title at the recent Southeastern Wisconsin Fall Championship Matches.

Seven firsts were won with Model 37's. Bob Spahr, fresh from Perry, used Palma Match and a Model 37 to win the 100-Yard iron sights, the Dewar and the Aggregate of the two matches.



T. J. Holm of Des Moines won two events at the Iowa State Match.



O. Hobbs took the 100-Yard any sights event at Camp Dodge.

Mr. and Mrs. Grosskopf won the Two-Man team event, and each won an Individual match—Mr. Grosskopf the 50-Yard iron sights and Mrs. Grosskopf the 100-Yard any sights (in which she scored 400 x 400 and 23 X's). Both used Model 37's, "Marsh" shooting Palma Match and Mrs. Grosskopf Palma Kleanbore.

In the 50-Yard Offhand match, any sights, Eli Cook won with the fine score of 181, twelve points ahead of his nearest competitor. Cook used a Model 37 and Remington Hi-Skor.

HAMPTON WINS TROPHY AT MUSCATINE SHOOT

MUSCATINE, Iowa—Shooting that grand winning combination, the Model 37 and Palma Kleanbore, Brule H. Hampton of Rock Island, Ill., scored 400 x 400 to win the Kautz Memorial Trophy. He also took first place in the Individual Dewar with 396 x 400.

Al Freeland of Rock Island, also shooting Palma Kleanbore, won the any sight Dewar with 400 x 400 and 29 X's, and scored second in the Kautz Trophy. Wm. W. Stark of Moline, Ill., won the 50-Meter iron sights with 393 x 400, shooting Palma Match.

MR. AND MRS. WADDELL SWEEP OREGON MATCH

MEDFORD, Ore.—Between them, Mr. and Mrs. Ivan Waddell took every match at the Second Annual Members Match of the Medford Riflemen. Mrs. Waddell won the Dewar with 400 x 400 and 27 X's, and the 11-carton Match with 209. Mr. Waddell took the 50-Yard event with 400 x 400 and 24 X's, the 50-Meter with 392 x 400, and the Grand Aggregate with 1397 x 1420. Both Mr. and Mrs. Waddell were shooting Palma Match.

HIGH SCORES AT ILL. SHOOT DESPITE COLD

CHAMPAIGN, ILL.—A chill wind and a threatening sky reduced the entries but not the scores at the recent shoot held by the Illinois Rifle Club.

M. L. Kobler of Monmouth, Ill., captured the opening match with 200 x 200, shooting a Model 37 and Palma Kleanbore. Kobler also tied for first in the Aggregate. M. B. Hawkins of Elgin, Ill., also shooting a Model 37 and Palma Kleanbore, took the 50-Yard any sight with another 200 possible. Jack Rioridan of Aurora won the Dewar with 399 x 400, shooting Palma Match.

RESTON WINS WESTERN MASS. CHAMPIONSHIP

PITTSFIELD, Mass.—Rodney Reston of Amsterdam, N. Y., won the Individual Championship of Western Massachusetts, during the Tenth Annual Team & Individual Championship held at Pittsfield, Mass., over the Dewar Course with iron sights. This is the only possible ever fired in the 10 years of these matches. It was the second consecutive possible with iron sights over the Dewar Course made by Reston since he scored 400 in the Caswell Team Match at Perry. All of this was done with Palma Match.

BERKHEISER TAKES FIVE EVENTS AT VANDERGRIFT

VANDERGRIFT, Pa.—R. D. Berkheiser of Hopewell, Pa., didn't seem to mind the high wind and tricky mirage at the recent Small Bore Rifle Tournament here. "Berk" won five matches and took second in another. He won the Aggregate of Matches 7, 8, 9 and 10 with 1376. This consisted of Match No. 7—40 shots at 50 meters, metallic sights which he won with 395; Match No. 8—the Dewar metallic sights with 397; Match No. 9—20 shots at 100 yards on the International Target, metallic sights, with 187 and the Dewar Any Sight with 397. In the 50 Meter Doubles Any Sights he and S. B. "Sam" Felker of Hopewell took second with 394. On the previous day "Berk" and "Sam" took the 50 Meter Two Man Any Sight Match with 398. "Berk" got 200 and "Sam" 198. All of this shooting was with Palma Kleanbore.

POSSIBLES and IMPOSSIBLES

by FRANK J. KAHRS



The N. R. A. Small Bore Register List for Camp Perry this year was like a "Who's Who in American Rifle Shooting." There were something like 850 of the country's small bore shooters registered.

We had one of those lucky moments on the Small Bore Range at Perry this year and got about twenty feet of film on the movie camera of the Keotah of Oklahoma as he dashed on the firing line in full ceremonial bonnet and proceeded to shoot in a series of the squadded matches. We got a fine series of pictures before about 20 amateur photographers and the official photographer gathered round. It didn't help the Chief very much because the wind happened to be blowing pretty strong and those feathers and the heavy headgear proved to be much of a handicap, but we all had a lot of fun just the same.

There were over 80 Remington Model 37 rifles on the firing line at Camp Perry this year and 7 of the boys clicked for first place, including one of the 400's in the Dewar Team Match with Great Britain.

R. C. Pope of Dallas is the new Southwest Champion. He took a Model 37 home with him from Camp Perry and some Palma Kleanbore and went into the matches "cold." After getting settled, he got red hot the second day and if you will read elsewhere on these pages you will note he gave a good account of himself.

Our old friend Elmer Keith is the new Arms Editor for the "Rocky Mountain Sportsman" of Denver. Elmer knows his way around.

Have a report from Vic Breneman in Hershey, Penna., that the Lehigh County Small Bore League Matches have closed with Lebanon the winner of the last match, beating the York Riflemen by the slim margin of 1 point for the season of five matches. Vic had a 2 point margin up to the last match but the 1981 by Lebanon in 1978 for York in the final event won the trophy to Lebanon by 1 point.

It is interesting to observe that five high individuals in the League used Remington ammunition. Nos. 3, 4 and 5 used Palma Match, No. 2 used Hi-Skor.

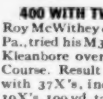
I notice that the 100-Yard any sight Match at the Colorado State Rifle Association Matches in Denver, August 7th, was won by W. A. Lauer of Bluffs, Wyoming, with a score of 198 x 200, using the Model 37 Remington and iron sights.

Jack Heck of Columbus, O., has been going strong with Palma Match, just made his seventh 400 over the Dewar Course, iron sights, in six weeks.

MORE SHOOTERS EARN 10X AND 400 BRASSARDS



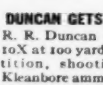
20X POSSIBLE AT 50 YDS.
A. R. Everts of Green Bay, Wis., made this beautiful 20X possible with Palma Match.



400 WITH TWO 10X'S
Roy McWhitney of Harmony, Pa., tried his M37 and Palma Kleanbore over the Dewar Course. Result—400 x 400 with 37 X's, including two 10X's. 100 yd. target shown.



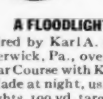
SWELL GROUP BY TILLEY
C. W. Tilley of the Arlington, N. J., Rifle and Pistol Club, sends this tight 10X possible, made at 200 yds. with Palma Match.



DUNCAN GETS BRASSARD
R. R. Duncan scored this 10X at 200 yards in competition, shooting Palma Kleanbore ammunition.



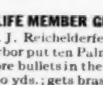
NICELY CENTERED GROUP
Homer Jacobs of Dayton, Ohio, gets a brassard for this nice piece of work with Palma Kleanbore.



A FLOODLIGHT 400
Fired by Karl A. Edburgh, Berwick, Pa., over the Dewar Course with Kleanbore. Made at night, using floodlights. 100 yd. target shown.



ANOTHER 10X BRASSARD
Norton Redding of Baltimore, Md., made this 10X at 100 Yards, iron sights, with Kleanbore.



LIFE MEMBER GETS 10X
E. J. Reichelderfer of Ann Arbor put ten Palma Kleanbore bullets in the X ring at 200 yds.; gets brassard.

CS and
BLES
KAHRS

R.C. POPE WINS SOUTHWESTERN SMALL BORE CHAMPIONSHIP



R. C. Pope of Dallas, Texas, who won the Southwestern Small Bore Championship. He used a Model 37 and Palma Kleanbore.

Scores 2774 in Aggregate with Model 37 and Palma Kleanbore ammunition

WOMACK AND WILLIAMS WIN INDIVIDUAL EVENTS

DALLAS, Texas—Shooting in the recent Southwestern Small Bore Rifle Tournament here, R. C. Pope of Dallas scored 2774 to win the Aggregate and the Southwestern Championship title, one point ahead of Palma Kleanbore shooter Thurman Randle of Dallas.

Pope started slowly, ranking fairly well up on the first day of the shoot, but he really got hot the second day. (Incidentally, he switched to a Model 37 rifle on the second day.) He won the

100 Yard iron sights event with 398 x 400 and 21X's. In the Any Sights Dewar he scored 399 x 400 and ranked second on a count of X's. In the 50 Yard Any Sights he scored 400 x 400 with 26X's—ranked third.

Thurman Randle and McLeod Greathouse won the Two-Man Team Championship with 798 x 800—both shooting Palma Kleanbore. Randle was consistently high, as always, ranking second in the Aggregate. F. H. Williams used Palma Kleanbore to win the Watson's Trophy.

PISTOL SHOOTERS WIN WITH REMINGTON

PHILADELPHIA, Pa.—The Fourth Annual York County Field Day saw five out of seven events won with Remington ammunition. The Pennsylvania Motor Police won the 4 Man team event with 1153. W. A. Stiles and W. Burtan of Harrisburg won the Two Man Team match with 81 x 600. W. Burtan won the High individual Center Fire, W. A. Stiles the All Bore match, and T. E. Eshleman the Languish Match.



Thurman Randle ranked second by 1 point in the Southwestern Championship.



W. H. Womack of Shreveport won the any sights Dewar at the Southwestern Tournament at Dallas.

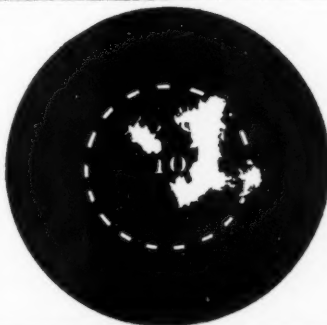
Five Events Won with Model 37's

W. H. Womack of Shreveport, La., won the Any Sights Dewar with 399 x 400 and 25X's, shooting a Model 37 and Palma Kleanbore. Jim McCubbin won the Sears-Roebuck Trophy with 400 x 400 with 32X's, and the Restricted Class Aggregate with 2765, shooting a Model 37 rifle. Counting Pope's victories in the 100 yard event and the Aggregate, Model 37 rifles were used to win five out of the 10 rifle matches scheduled. This rifle is really going places!

THE TARGET OF THE MONTH

Here is beauty—a 10X possible made at 100 Yards by M. L. Kobler of Monmouth, Ill., with a Model 37 and Palma Kleanbore. The group shown is actual size.

Conditions for "The Target of the Month": 1. Must be fired under N. R. A. rules. 2. Be witnessed by 2 people. 3. Be fired within one month previous to the time it was mailed to us. 4. Be fired with Remington ammunition or rifle. Send "hot" targets to Frank Kahrs, Remington Arms Co., Inc., Bridgeport, Conn.



"PALMA" SWEEPS BRITISH MATCH

BRIDLINGTON, England—The recent S. M. R. C. Meeting here turned into a triumph for Palma ammunition. The first four places in the Championship were won with Palma. There were 15 other firsts in individual events, and 3 firsts in team events.

Fourteen members of the British team in the International Dewar shot Palma ammunition.

DETROIT, Mich.—Al Shapiro of the Detroit Police loaded up with Palma Kleanbore and took the .22 cal. 50-Yard match at the recent Eastern Michigan shoot at the Hickory Ridge Range, scoring 185 x 200. Corp. W. B. Kunkle of the Penn Motor Patrol won the Center Fire Timed Fire Individual with 37 x 200, and T. E. Eshleman won the Center Fire Rapid Fire with 192 x 200—both shooting Remington ammunition.

WILMINGTON, Del.—The Marksman's Club of this city has been holding regular monthly shoots at the Farmhurst Range. In one of their recent "Twilight" matches, the first three places were won with the new Remington Hi-Skor.

within this state for not more than one year from date of issue, if it appears that the applicant has good reason to fear an injury to his person or property or has any other proper reason for carrying a pistol, and that he is a suitable person to be so licensed. The license shall be in triplicate, in form to be prescribed by the attorney-general and shall bear the finger-print, name, address, description and signature of the licensee and the reason given for desiring a license. The original thereof shall be delivered to the licensee, the duplicate shall within seven days be sent to the attorney-general and the triplicate shall be preserved for six years by the licensing authorities issuing said license. A fee of two dollars may be charged and shall be paid for each license, to the officer issuing the same. Before issuing any such permit the applicant for the same shall be required to give bond to the city or town treasurer in the penal sum of three hundred dollars, with surety satisfactory to the authority issuing such permit, to keep the peace and be of good behavior. Every such permit shall be valid for one year from the date when issued unless sooner revoked. The fee charged for the issuing of such license or permit shall be applied in accordance with the provisions of section thirty-three of chapter 401 of the general laws.

III. *Duties of seller:*

Section 2, Chapter 1421, laws of 1929.

Every person, firm or corporation selling a pistol, revolver or other firearm of a size which may be concealed upon the person, whether such seller is a retail dealer, pawnbroker or otherwise, shall keep a register in which shall be entered at the time of sale, the date of sale, name, age, occupation and residence of every purchaser of such a pistol, revolver or other firearm, together with the calibre, make, model, manufacturer's number or other mark of identification on such pistol, revolver or other firearm. Such person, firm or corporation shall also, before delivering the same to the purchaser, require such purchaser to produce a license for possessing or carrying the same as required by law, and shall also enter in such register the date of such permit, the number thereon, if any, and the name of the licensing authority by whom the same was issued.

SOUTH CAROLINA

I. *Arms covered:*

Any pistol less than 20 inches in length and three pounds in weight.

II. *License to purchase:*

None provided.

III. *Duties of seller:*

Sale of such guns is prohibited.

TEXAS

I. *Arms covered:*

"Pistol" shall include every kind of pistol, revolver, automatic, semi-automatic, magazine pistol, and every other such short firearm intended or designed to be aimed or fired from one hand.

II. *License to purchase:*

Statutes 1928, Supplement 1931, P. C. section 489a. It is a misdemeanor for any person to knowingly sell, rent or lease a pistol to a person under heat of passion. No person may purchase a pistol unless purchaser has procured from a justice of the peace, county judge, or

district judge in the county of his or her residence a certificate of good character. The certificate shall be kept with the permanent record of the dealer. No person may purchase a pistol who has served a sentence for a felony.

III. *Duties of seller:*

Every dealer (wholesale and retail) shall keep a permanent record of all pistols bartered, leased or otherwise disposed of which shall be accessible to the comptroller, prosecuting attorney, grand jury, and attorney general, and a copy of the record shall be mailed to and filed in the state adjutant general's department. Filing to be made within 3 months.

HAWAII

I. *Arms covered:*

Any firearm of any shape with barrel less than twelve inches in length and capable of discharging loaded ammunition or any noxious gas.

II. *License to purchase:*

The possession of firearms by any person convicted of having committed or attempted a crime of violence is prohibited. The sale is prohibited to any one whom the seller has reasonable cause to believe has committed a crime of violence. The sheriff may not issue a permit to any one to acquire a firearm if he has been convicted of committing or attempting to commit a crime of violence or is an anarchist or one who, if armed, would tend to imperil the government of the United States or of the territory.

III. *Duties of seller:*

No delivery may be made to any person who has no permit to acquire. Dealers must report on sales and must receive a signed statement from the purchaser giving his name, address, etc. Permits to acquire must be presented on purchase.

PORTO RICO

I. *Arms covered:*

"Firearms"

II. *License to purchase:*

"Arms may be lawfully carried by: (1) members of the army, navy and any other armed organization of the U. S., (2) national guard of P. R., (3) jailers, prison officials and guards, (4) insular police, (5) internal revenue agents, (6) health inspectors specially authorized by the commissioner of health who shall serve notice of the issuance of the license to the district chief of police, (7) marshals and deputy marshals, (8) judges and fiscals, (9) conductors of public funds, (10) conductors of private funds on previous authorization of the district court before which the conductor of the funds or his employers shall justify the need of said license, (11) mail carriers. Licenses to carry arms may be issued by the district court of applicant's residence if danger of death or serious personal injury to the petitioner is shown and the circumstances in the case established by affidavits warrant the need of the license.

III. *Duties of seller:*

No person shall sell, exchange, pledge, donate, or deliver any arms to another person not legally authorized to carry same. Every dealer shall keep a register of sales and on Monday of each week must forward a true copy of same to the nearest police post.

HOME GUNSMITHING

(Continued from page 12)

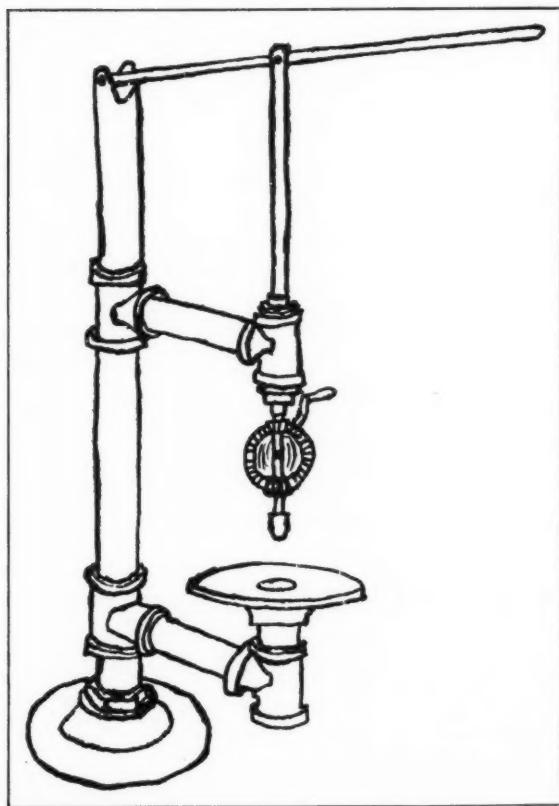
another tee by its side outlet, with its straight-through hole vertical, and in each end of this straight-through hole screw a brass pipe plug, with holes drilled and reamed through them the right size so that the steel shaft you screwed onto the hand drill will be a sliding fit in the holes.

Now going back to the column, again screw a nipple into the top of the last tee, six inches or so in length, and saw a notch in the top of it from back to front. Take a piece of $\frac{3}{8}$ " steel shaft about two feet long, and drill a hole for a pin through it, near one end, and fit this end into the notch of the nipple on top of the column by drilling a pin hole through the sides of the notch and running a pin through the nipple and the end of the shaft. Cut a notch in the top of the steel shaft screwed onto the hand drill, and drill through the sides of the notch for a pin. Then file the sides of the two-foot length of shaft until this shaft fits into the notch, and drill it for the pin, and pin the two shafts together at right angles to each other, and your bench drill is complete.

Twist drills can readily be obtained in four different size classifications: the fractional-inch size, the wire-gauge size, the alphabetical size, and the metric size, so that you can obtain drills varying a very few thousandths of an inch in size, for any job.

This should give you something to think about for a while, and I'll be with you again later.

The home-made drill press



A THEORY OF RECOIL

(Continued from page 11)

to produce a recoil energy equal to that called for by the old theory.

By making the deductions suggested above we find that all energy available for production of recoil, after ejection must be included in Item 9 of Table 1, namely, "Ejected at muzzle." It cannot be *all* of this energy, however, because from this figure must be deducted also the energy required to produce the flash of the explosion, the sound and pressure waves and all energy in powder unburned at the time of emergence of the projectile from the muzzle, with the important exception of any energy expended on the projectile after such emergence.

Since we have no means of checking directly the energy expended on the projectile after emergence against the recoil as determined by pendulum measurements, it is important that we examine carefully the theory to see whether it is in accordance with other determinable phenomena.

First, we can see whether computed recoils of other rifles agree closely with that announced by Hardcastle in Table 1. We can do this by the formula:

$$R = E_a C b \quad (1)$$

in which R is the recoil in foot pounds, E_a is the available energy, b is the area of the bore in square inches and C is a constant depending on the charge employed.

We solve the equation to determine the constant C for the case described by Hardcastle:

$$C = \frac{R}{E_a b} \quad (2)$$

The values are R equals 11 foot pounds, E_a equals Item 7 (11 foot pounds) plus Item 9 (2315 foot pounds) or 2326 foot pounds total and b equals .0721 square inches.

Solving:

$$C = .0656$$

For another gun of similar characteristics, we predict R by the original equation. The recoil of several rifles have been computed by this method (making corrections for other variations) and the results are given in Table 2.

The errors are shown to be small.

TABLE 2

Model	Computed recoil ft. lbs.	Published recoil ft. lbs.
.303 British Enfield, Model 1914	11.00	11.00
.30-'06 U. S. Enfield, Model 1917	15.91	16.00
.405 Winchester	27.60	28.00

We know that the velocity increases after the projectile leaves the gun.

For the U. S. Enfield, .30-'06, Model 1917, the increase in velocity is on the order of 10 feet per second. The weight of the bullet is 172 grains. We can readily compute the amount of energy by the formula:

$$E = \frac{1}{2} M \left\{ V_1^2 \text{ minus } V_2^2 \right\}$$

in which E is the energy; M the mass of the bullet which is the weight of the bullet in grains divided by 7000 grains per pound which gives the weight in pounds and this result divided by gravity of say 32.2; V_1 the maximum velocity

and V_2 the velocity at the muzzle. For this rifle the values are:

$$\begin{aligned}V_1 &= 2710 \text{ foot seconds} \\V_2 &= 2700 \text{ foot seconds} \\W &= 172 \text{ grains, weight of bullet.}\end{aligned}$$

The computed value of E in this case is 20.64 foot pounds. Reference to Table 2 shows that this is in close agreement to the published figures.

Under the present recognized theory, the energy of recoil has been assumed to be much larger than is actually the case; furthermore, it has been assumed to be inevitable and beyond control. Under the theory herein proposed, it will be noted that only the recoil which occurs during the passage of the projectile through the bore is uncontrollable as to amount.

It must be noted that the energy of recoil generated after the projectile leaves the gun is due to the action of the gases of combustion. This action is dependent for its effect on the method of handling their expansion at the muzzle. It is possible to control the conditions under which they expand and their direction of motion so as to reduce their effect, in the case of existing rifles, by amounts from 50 to 85 per cent.

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DEPRESSION DAYS

(Continued from page 17)

my gun in my hand and held it out to him, butt first. "Want to try her?"

He shook his head.

"Go ahead," I urged; "you ain't chewing up no pet lot of shells. They're just ordinary Kleanbore. Nothing special."

Again he shook his head. It made me a bit mad. He must be a snotty cuss, refusing to try a beautiful new H. and R. But I knew I could break through that thick crust of his. So I went on: "If you don't like to play with the 22's—if they're too tame for you, there's a sweet Mauser in my bag, and a hot regular-issue .45, and an extra-good .455 Webley. They're all tuned up and ready to go. Pick anything you want. A feller that can coach the way you can must love to shoot—"

Then I looked into his eyes, and stepped back a pace.

"Lay offa me! Damn you, lay offa me!" he snarled.

It's easy to write that phrase "he snarled". Writers use it too much. But that tall boy with the hard, level eyes looked straight at me and snarled. Then his mouth lines broke and his eyes softened.

"I'm sorry—awfully sorry. Please sit down."

So we sat down and lit our cigarettes, and he told me his story. He was a skilled carpenter. His father was a small contractor. Until late in 1931 they had never known what it was to be without work. Without a backlog of orders. And then the depression broke. It broke just as his mother required a fearfully expensive operation. Just as his father fell from a scaffold and received a compound hip fracture. Just as his wife had a baby. They had once owned, he and his father, two houses, two cars, a truck, a good woodlot, three life-insurance policies, and two savings-bank accounts. Now they had one house and the truck. Both of these were mortgaged. Money and insurance were gone. There was no more real work—just odd jobs at day-laborer's pay.

"You're the fourth man that's offered me a gun and shells today. Two of the boys wanted to buy me tickets to shoot. But I can't do it. I can't do it and keep my self-respect. Somehow I manage to keep my N.R.A. dues paid up so I get my RIFLEMAN every month, and know what's going on in the shooting game. After this damned depression is over, I'm going to make up for lost time. Me and my guns—and some new guns—is going to get acquainted once more." He wound up with a six-shot double-action oath.

So I went away from there. I shot three or four more events that afternoon, but the kick was gone. I won once and lost three times.

We pulled out at dusk for the trip back home. The gang was happy, for the trunk on the back of our car was packed with turkeys—big fat turkeys that had cost us mighty little. They sang a bit, and wise-cracked, and held a post mortem over each and every bird. They were pleased and proud and happy, and they had a right to be.

But I didn't say much. They could have their turkeys. You can get turkeys most anywhere, in any meat market. I was taking home something really precious; something really valuable. The memory of a sportsman and a very real gentleman.

NEW MEXICAN QUAIL

(Continued from page 22)

road, keeping a perfect line, perfectly spaced, each little black-topknotted bird running with head high. A Gambel's quail is slightly longer than a Bob White anyhow, and runs like a miniature wild turkey. I counted them as they went over, a fool habit of mine, and there were twenty-two quail in that second bevy.

Buck saw those birds as the last of them entered the cover, and away he went after them with his master hard pushed to keep up. They got among the birds, and Charles, Jr., killed one as the bevy arose. Buck saw the bird fall, and had it in a minute. Then the two of them beat on after the covey, which hadn't gone far. Joe, Jr., and I elected to try the first lot of birds, knowing precisely where they were. We went right into them, and strangely enough the pump gun pumped and I got two, seeing them fall precisely between two clumps of mesquite. I left them there to pick up as we came back, knowing I couldn't miss them, and the bevy had simply jumped up and gone down again forty or fifty yards in front.

So ended our first quail hunt of the season. According to our estimate, we had covered about 270 miles that day.

BLACK-POWDER RESIDUE

(Continued from page 18)

to cake. If the bore became caked badly enough, and the shooter was firing rapidly, the first thing he knew there would be no report, and a bullet would be lodged in the bore. And sometimes these stuck bullets would be very hard to remove. I remember the experience of two boys (they are my brothers-in-law now) whose grandfather gave them a Stevens Favorite .22, together with a heck of a lot of stern advice, when they were at the age of eleven and thirteen years, respectively. A bullet lodged in the barrel

of that rifle from the above cause, the bullet being about 4 inches from the muzzle. They were shooting wheat squirrels at the time. All their efforts at ram-rod-rod served only to make the bullet tighter. Finally they decided that, as the rifle was useless as it was, they might as well employ heroic treatment. So they poured the barrel full of black powder from the stuck bullet to the breech, and pulled the bullet from a loaded shell and inserted the shell into the chamber. They fastened the rifle in place on one side of the chicken house and pulled the trigger with a string led around to the other side. There was a boom like that from a 10-gauge shotgun, and—well, I'll leave the rest to the imagination of the reader!

Only those shooters who have used poor black-powder shells in a .22 rifle can really and thoroughly appreciate noncorrosive priming and smokeless powder. Seemingly to me, the old .22 smokeless shells were worse as regards fouling than the black-powder ones. Though the smokeless loads did not soot the barrel up at the time, the roughness that began to appear in the bore the next day was fatal to the fine polish. No amount of cleaning that we could do would save the bore from beginning to rust and roughen the day after we had used the old corrosive-primed smokeless-powder shells. I personally preferred to clean after black-powder loads, and take my chances with residue, than to lose the barrel through the use of corrosive smokeless shells.

Once I bought at a second-hand store, just to get the action, a .22 W. C. F. Single Shot rifle. I could see through the bore, but when I tried to push a wiping rod through at home the rod soon stuck. After pouring hot water through, the quantity of black residue that I got out was unbelievable. The hole through the barrel that I could look through must have been no larger than a pinhead. No wonder this rifle—though it looked good on the outside—went to the second-hand man.

Ordinarily it did not take me long to clean my rifle after using black-powder reloads. Each time I cleaned it I used five patches, three of which had been used before. I discarded only the first two patches, which would have about all the residue on them. I began with an oiled patch, alternating with dry ones until I was satisfied that the residue was all out and the bore oiled. Cleaning the bore, though, was a small chore compared with decapping, washing, and drying a hundred shells—although I had a fast method for this, too.

The noncorrosive primer surely saves a lot of time, as well as wear on the bore with a cleaning rod. I bought a .22 rim-fire soon after this priming came out, and can remember wiping out the bore only two or three times just to see if it was all right, and once when I got it really wet in a rain. Compare this with black-powder residue, which must be removed at least once daily. Few shooters like to clean guns, and in fact I know of but one who does. A friend once said of this one: "I believe Frank would sooner clean a gun and doll it up than shoot it." Frank would not let his .22 rifle go over night without cleaning, even when fired with noncorrosive primers.

King's Semi-Smokeless was a form of black powder designed to eliminate fouling troubles. It left a very soft residue in the bore that did not accumulate no matter how many shots were fired. This residue did not cause any trouble, but it seemed to me that the powder when fired made as much fog as straight black powder.

Recently a nice accommodating dealer got me a quarter-keg of my old favorite Laflin & Range "Orange Rifle" black powder, in a lot shipment from a long distance. But I have been disappointed so many times with different batches of powder that I bought, that I hesitate to try this new

can, lest another hope be blighted. Of course I will try it eventually; and perhaps it may be, after all, like a chance meeting—possibly the last—with a tried-and-true friend of younger days.

PISTOLEERING FOR GAME

(Continued from page 16)

upon it from an angle. This helps much in attaining accuracy in fast snapshooting. The holster may be worn either high or low, to suit arm length and personal convenience. As shown, the hand is lifted from the side upward and forward to the gun butt with forefinger extended and the last three fingers hooked. These last three fingers catch under the gun butt as the hand makes its upward sweep, starting the gun from the holster. The thumb and fingers then close tightly around the butt in the grip previously described, while the forefinger falls across the trigger. After that the gun is merely lifted up and out with a convenient bending of the elbow, until it comes into the line of vision and is aligned upon the target. With practice this draw is capable of a quarter-second speed, and is easily learned once the knack is caught.

A companion draw to it for use of the left hand has been worked out by the writer, who has successfully used it for some years. For want of a better name he has styled it the "Twist Draw." It is not nearly as complicated as it looks, and has definite advantages over drawing the gun upside down with the little finger on the trigger. To the two-handed shooter it makes possible the accurate firing of more than one shot, which the gun held upside down does not. Any hunter will see infinite possibilities in it—the use of either hand at will. To execute it the left hand is brought up across the body, palm forward, and placed between the gun butt and the body, with the forefinger extended as shown. The last three fingers are hooked to catch under the gun butt. They do not do this squarely but in a sufficient manner to partially lift the gun with the withdrawal of the hand. The gun will automatically turn in the holster against the pressure of the fingers as it is raised, until it can be grasped fully, as illustrated. After that it is merely lifted up and out toward the target as it is straightened to normal shooting position. With practice this draw can be executed in around a half second if one wishes to go to that extreme in speed. Like many another trick that will doubtless be developed by the revolver hunter, it helps to get the game. Let that be your sole criterion.

THE NEW JOHNSON RIFLE

(Continued from page 7)

would nevertheless annul certain advantages of the auto-loader, purely psychological though they might be.

For all that, I sincerely hope that this Johnson semi-automatic rifle will become popular among American sportsmen, because I think the time has come when all shooters should become "automatic-conscious." Our own Government has definitely adopted the Garand semi-automatic rifle and is manufacturing it for special Service use. With a contemporary semi-automatic in general use by American riflemen, our countrymen would gain a familiarity with this modern type of military weapon which would give us the indisputable asset of an auxiliary supply and a source of commercially produced arms in the same caliber and a corps of experienced users available as instructors in case of a National emergency within the next few years.

OVER THE NEWS DESK

CLUB SUGGESTIONS

The following, from a shooter who has himself started several youngsters, his own sons as well as at least one other boy, in the shooting game, presents, it seems to us, a message of interest and value to every shooter. A program such as this might well be the salvation of a tottering club, weakened by lack of new blood.

TO THE SENIOR SMALL BORE SHOOTERS OF AMERICA:

All of us have at times drawn up our chairs before open fires and with half closed eyes relived our greater moments in the field and on the range. And when old friends find themselves together at such a fireside the stories spin far into the night. As a sport, this shooting business has greatly enriched our lives.

Some of us have at times indulged ourselves in a bit of philosophy about the game. Most of us have developed what skill we have, great or small, through the method of trial and error. Much time has been wasted; many blind alleys uselessly explored. Who among us has not said that he would like to live over again his shooting life? I expect there is no one of us who wouldn't say that under such conditions he would start his serious participation in the shooting game earlier in life. An earlier start would give us more years in our shooting prime.

This brings me to the first point of this letter. Rifle marksmanship offers most to those who begin serious participation at a time when such training engenders the fullest response to the situations presented. Let us consider the 'teen age boy and girl. Where can you find for them greater lessons to be learned in safety, poise, self-control, relaxation, consistency of effort, sportsmanship, the joy of competition, the thrill of achievement? Where in any other sport can you find an opportunity for the beginner to compete shoulder to shoulder with the top flight performer? Splendid recognition of the value of Rifle marksmanship in 'teen age training is being given by the Junior Division of the National Rifle Association, the Boy Scouts of America, the American Legion, the C. M. T. C. and R. O. T. C. organizations and by numerous rifle clubs the country over. All of these agencies and efforts are real factors in the training of the youth of America. The boy or girl who by the end of his or her eighteenth year having qualified as a Distinguished Rifleman in the Junior Division of the National Rifle Association, has, through hard work, developed certain skills which will find expression both on and off the range. This stage in marksmanship should be the goal of every Junior Shooter, and the Senior Shooters should lend every encouragement toward the attainment of that goal.

However, the work leading to the Distinguished Bar is entirely at fifty feet. Most of it is done on the indoor ranges and (except for that carried on in the summer camps), is done during the school year. Two years ago the Junior Division of the National Rifle Association, recognizing the need of the Junior Shooters for work at the Senior ranges, established the "American Rifleman" Awards. Ten targets scoring ninety-five or better at fifty yards qualify the Junior as American Rifleman, Third Class. Ten targets scoring ninety-five or better at one hundred yards qualify the Junior as American Rifleman, Second Class. Twice over the Dewar Course with a score of three hundred and eighty or better qualify him as "American Rifleman, First Class."

So we come to the second point of this letter. If our Juniors are to have the cumulative advantages of such advanced work, we have several problems to meet. Of course, the Junior must

be ready for the work, particularly with respect to his mental attitudes. This isn't so much a matter of age as it is one of right approach. He must understand that he is playing an adult game and that he is to expect no favors except those of advice and encouragement and that these are on an adult, rather than juvenile plane. My own experience during the past two seasons leads me to believe that a Junior with such a mental attitude will be welcome to shoot on any range in the country.

Many clubs are encouraging such Junior participation by lowered entry fees. With respect to entry fees, Junior participation presents another problem which the Senior should bear in mind. Shooting for money will disqualify the Junior for high school, college and Olympic competition (rifle or other sports). It is therefore probably safer to bar the Junior from money prizes. This can best be done by fixing his entry fee at a point which will cover only the percentage of the entry money retained by the sponsoring organization to meet its overhead and reserves. In other words if the entry fee is \$1.00, half of which is returned to the shooters as cash prizes, the Junior entry fee can be set at 50¢ (medals and trophies only).

The third point I want to make has to do with incentive. Many clubs and organizations are also recognizing Junior achievement in the Senior game by special Junior awards in some of their matches. At Camp Perry in 1937 medals were awarded the high Junior in three

An explanation: Last month some 400 letters reached the offices of the AMERICAN RIFLEMAN anent the failure of the October issue to reach members on schedule. This year, as in past years, the ten-day hold-up was occasioned by the necessity of including Camp Perry match results, not available until after the normal closing date.

of the restricted matches. This plan drew such favorable comment that similar awards have been made a permanent part of the program in all the short and mid-range iron sight matches. Such recognition of Junior achievement in the Senior game will adequately meet the problem of maintaining the interest of the Junior, while he is developing skill over the Dewar Course. Otherwise he might easily become discouraged and disappointed during the long period of development of such skill as will bring him one of the coveted "place awards" in Senior matches. Here again the National Rifle Association has recognized the problem and helps by providing the "American Rifleman" Awards when qualifying scores are fired in any of these matches. Then, too, there are several postal matches available to the Junior and to the Tyro, to say nothing of the Class B and Class C Awards usually given in the Senior matches. Summing up—it appears that, given the right mental attitude, the Junior has been provided with the equally necessary incentive to develop his marksmanship at Senior ranges.

This brings our discussion to the fourth point—the problem of equipment. This presents a real problem in many cases. Many a sincere attempt to develop the Junior shooter has failed because of lack of necessary equipment. Here again it is a matter of the right approach, but this time it is the mental attitude of the Senior that is important. A boy who is worthy of your interest and time is worthy of the use of your equipment—under your supervision, of course. You are training him. Coaching is permitted in shooting for the Junior American Rifleman Awards, so get up on the firing line with him. His response to your interest and instruction will be ample reward. To have a hand in such training of character and skill

(Continued on next page)

TIMED FIRE with Bill Shadel

Another All Night Shoot: Those California boys are at it again, only this time it's the pistol clan. The Glendale lads are whooping it up for the November 5th event, with publicity agent Wally Robins calling its success a foregone conclusion. Three matches, eighteen brilliantly lighted targets, and approximately two hundred dollars in merchandise not including cash awards—that's the bait for a night spent on the range. And, of course, barbecued sandwiches, coffee and all the trimmings. Robins mentions publicity (to tear at our heart-strings) and here is what they have. "The last all night small bore shoot had the largest gallery ever to witness a rifle match in Southern California, with Anne Shirley, actress; Spencer Tracy, actor; Charlie Echer, comedian; and Director Del Lord, the club's vice-President, cooperating." These four are now all life members of the club and active as shooters. And now for this coming attraction Del Lord comes along with pictures (opposite page) such as only he as a Hollywood director can produce. Of course, the publicity bears the Hollywood influence, but for getting attention—well, write your own ticket. Envious, that's us, and wishing them a bang-up good tournament.

Our vote of the month goes to the Morris Rifle Club of Morris, Minnesota. Officers of that club have staged a most valuable demonstration on firearms safety—a lecture by one of their number, Dr. B. F. Ederer, accompanied by illustrations in posters, moving pictures, and above all, practical demonstrations by Mr. Careless and Mr. Careful in which the right and wrong of handling firearms was brought forcibly to the attention of large audiences in high schools, boy scout groups, and sportsmen's clubs all over western Minnesota. Newspaper clippings read like unsolicited testimonials of the target shooting game. We understand that this demonstration and lecture has proved so popular that it has been booked for many weeks in advance. It will show before new thousands of people before it finishes. Now there's an idea. Why can't we have more of it? The N. R. A. will cooperate with any club desiring information, material for lecture, or suggestions, and would be glad to tie in with its own releases on safety going out this fall for the hunting season.

Frank McCoy, "whip" of that Hyde Park Y. M. C. A. (Chicago) pistol division, which in August staged one of the biggest pistol matches ever to be held in Illinois (where we witnessed first hand a real revival of pistol interest) reminds us that we failed to announce the Muzzle Loading Rifle and Cap and Ball Pistol matches in the October RIFLEMAN. Sorry, Mac, but we now salute that new organization, the Tri-State Police Revolver League, formed "to organize civilian and police shooters throughout the three states (Illinois, Indiana, Wisconsin) and to conduct competitive matches and training classes."

And now we're off to what is expected to be one of the finest first year tournaments—the South Atlantic Regional Matches at Savannah, Ga., 1, 2 and 3 of this month. Sponsored by the Police Department of Savannah, we're taking Captain Clancy up on his offer of a real time in that most hospitable spot. And Jim Beloungy (WBT Charlotte) reminds us that there is no hunting quite like that of the Pisgah National Forest, enroute. . . .



Caption, Editor? Aw, what's the use, you wouldn't read it anyway. Or would you? — In that case (sorry, no telephone numbers), the Glendale (Calif.) first all night pistol match, November 5th, enlists Hollywood in its publicity. Del Lord, club vice-president, poses with target girls

CLUB SUGGESTIONS

(Continued from opposite page)

is a real privilege. Perhaps to your own surprise you will find that you are taking a greater pride in your protégé's improvement than in your own scores!

There are fine lessons for the lad in learning the art of hard holding and smooth squeezing. You can short-cut his experience at many points for you probably learned by the long and hard way of trial and error. Keep him out of bad habits. Show him what he is trying to do in sight adjustment to meet changing conditions of range and light and wind. Help him to get the buck fever worked out of his system early in his experience.

And, so to my fifth and last point. Look about and you will find a lad eager to respond to your invitation to participate in the Senior game. Sponsor him through the coming outdoor season. See that he makes the most of his time and yours. Fortunate for you and for him, if that lad is your son or nephew or friend. Fortunate for you and for him, if that lad is one of the many who are hungry for the comradeship of a man during that trying period when he is earnestly striving to find man's estate. Fortunate indeed for the future of the rifle shooting game and for our efforts to bring the Pershing trophy back to America if each Senior will work some lad over the Dewar ranges during the summer months!—EUGENE P. BROWN.

INTERNATIONAL PISTOL MATCH

The score of the Cuban team that fired in the 1938 International Pistol Team Match has reached us, completing the final official records of the event. The team totals and rankings are: United States, 1812, first; Dominion of Canada, 1693, second; Great Britain, 1683, third; Republic of Cuba, 1657, fourth. Only the American group fired in this country, the three other teams shooting on their own ranges.

Since its inception the match has proven very popular in England and has acted as an incentive to the rapid growth of the pistol shooting game there, despite the stringent laws regulating the ownership of handguns in the British Isles.

WE DONE 'EM WRONG

Two errors appeared in the 1938 Camp Perry story, October issue of the AMERICAN RIFLEMAN. Stuart C. Edmonds, Billings, Montana, winner of the Pope offhand match, was startled to find himself listed on the Preliminary Bulletin at Perry as Stuart Edwards of Nebraska, and the mistake found its way into the story. Similarly, William B. Woodring, three-time winner of the Chritchfield Aggregate, symbolic of the National Small Bore Championship, was credited with first place in only one event. Actually, Woodring took gold medals in the United States Cartridge Trophy, Remington and 50-Yard Metallic All Corners matches.

POSTAL MATCH PREVIEW

Twice each year a grey-clad army of postmen unknowingly cooperates in running one of the largest sporting events in the world. Twice a year these men carry registered targets to thousands of shooters in every state of the Union, and even to the various territories. Thousands of sharpshooters, in the main part unknown to each other, are going to shoot and hope—Each will be hoping that his score will win one of the trophies or one of the hundreds of medals awarded to the happy victors in the National Rifle Association's Postal Matches.

For better than a decade this semi-annual competition has been an important part of the shooters' year of sport. Each year these events have gained in size and prestige until at the present there is reason to expect the highest peak in both numbers and "names." Looking back over the records of past years we find that the winners, Tyro as well as Expert, would go far toward making up a fine International team which could be a record-breaker in the very toughest kind of competition. We see the familiar names of Woodring, Thurman Randle, R. C. Pope, Eddie Doyle, Eric Johnson, Vere Hamer, Bill Schweitzer, E. N. Morr, J. C. Lipencott, Charles Hamby, Emmett Swanson, Sam Moore, Harry Frohm, Ray Loudon, Lew Bulgrin, and most of the rest of the top-flight riflemen. The names in the pistol matches are no less impressive. To mention a few—Emmett Jones, Al Hemming, Leo Allstot, F. B. Jowe, T. K. Lee, and Walter Walsh.

These names give an idea of just what the top of an Open event bulletin might look like. At the bottom of the Open matches and entirely comprising the Tyro events are hundreds of more or less unfamiliar names, the names of those beginning the climb to the coveted position of the consistent medal winner.

This bird's-eye view demonstrates the two-fold use of these matches. For the expert they provide the very finest in competition, keeping him in practice so that he will be at the very keenest pitch for the tournament season. He shoots against a nation-wide field of sharpshooters whereas even the largest tournaments cannot possibly draw from as large a territory because of the handicaps of distance and expense. He must shoot at the top of his ability since every competitor is firing under picked conditions. Often the seasoned tournament winner will be surprised to find his name supplanted on the bulletin by the name of a relatively unknown shooter whose compelling ambition to beat the recognized champions has spurred him on to a record-breaking score.

The other outstanding virtue of these matches and the more important from the point of view of the untried Tyro is the opportunity for experience and contact with tournament rules and conditions free of the nervous strain imposed by the tournament firing line. Here he finds himself shooting in the company of his friends and in the familiar surroundings of his home range. His company and surroundings are the same as they are every time he fires a practice string on Saturday afternoon. But—and here is the great difference—he is firing a match. If he pulls one out into the eight ring he can't simply mutter under his breath and hope it doesn't happen the next time. There is no next time—this is the target that counts. He can't take time off to talk about John's new gun between his shots—he's got a time limit to respect. Add to this the restrictions as to positions, range, equipment, etc., and the Tyro finds himself in a new experience.

Another feature of these matches which has proven popular is the classified Tyro event. Here the premium on fine equipment has been eliminated. The beginner with one of the lighter, inexpensive rifles is not discouraged by finding himself forced to shoot against other more fortunate brethren armed with the finest of heavy-barrelled match rifles. Instead he can feel that his position on the final bulletin will depend solely on his own ability to "hold 'em and squeeze 'em."

This year the gallery season will see the most complete and comprehensive program of Postal Matches which the National Rifle Association has ever placed before its members. The list includes both individual and team events for College men and women, Junior clubs, Senior clubs, Military men, American Legion post members, High School students, Military Academy students, Police, and many other organizations, besides the list of individual matches for its own members which is to be found elsewhere in this issue of the AMERICAN RIFLEMAN.

HINTS TO POSTAL MATCH COMPETITORS

The following suggestions are designed to aid shooters in their understanding of the operation of such matches and to prevent their making costly errors in the necessary procedures other than the actual firing.

1. Above all remember that these are your matches. Your suggestions and criticisms are what determine the matches to be fired and under what conditions they will be fired.

2. All scores are subject to substantiation, your own not excepted, at the discretion of the officers of the N. R. A. This is for your protection since it is physically impossible for the Association to have records of the ability of each and every shooter.

3. Understand and observe the conditions of the matches in which you are firing. Remember the printed forms are not meant merely as scrap paper. Read them. If there is some point which seems doubtful to you a letter or card will receive a clarifying answer by return mail.

4. It takes time to send targets by mail to distant points. This time must be taken into

(Continued on page 42)

—so they tell us:

PERSONAL COLUMN

SIRS:

One thing the Rifleman badly needs is a page for readers' letters and comments. Every reader sometimes wants to give voice to protest or to make suggestions. In fact this personal column is so important in holding reader-interest that very few magazines can afford to omit it.

I have seen a college newspaper degenerate from a live, interesting paper to a mediocre, dull one, read by few, when student opinions and letters were omitted.

WALTER JACKOLA,

Commonwealth, Wisconsin.

● In line with reader Jackola's suggestion (and others) we herewith present "So They Tell Us"—a page to be devoted to what our readers think about—including us!—ED.

INDIAN TARGET

SIRS:

This is an actual photograph of the Piasa bird, taken, developed and enlarged by the writer. Painted by the Indians on the bluffs



Alton's Piasa Bird

overlooking the Mississippi River at Alton, Illinois, this painting became a target for the Indians traveling up and down the river. Hence the name of our club.

Alton, Ill.

A. EDW. TERPENING,
Piasa Rifle & Pistol Club.

BUTTON, BUTTON

SIRS:

I was a member of the N. R. A. about 15 years ago and when I joined the N. R. A. they sent me a N. R. A. badge and I've worn the badge every since I've had it except the other day I lost the back screw of the badge I've got the front part of the badge except the back screw that screws on to the back part of the badge and I thought I would write this letter to you and ask you if you would please send me a back screw to this badge so I can wear the badge again if you can't send me a back screw to this badge so I can wear the badge again but you will have to send me a new badge in the place of this one will you please let me know and if this new badge will cost me anything will you please let me know how much a new badge will cost so I can get another one in the place of this one that I lost. I mist the badge a lot every since I lost it and if I could get another badge in the place of this one that I lost I would like to get another one in the place of this one. And if you will please send me another badge in the place of this one that I lost or let me know how much a new one will cost I will thank you very much for your kindness and oblige

Samaria, N. D.

JOHN CARROL.

● We sent him the back screw that screws on to the back of the badge. No charge. ED.

PISTOL ALIBIS AGAIN

SIRS:

Three loud and rousing cheers for Mr. Weston's article anent "Alibis" in pistol shooting. The article scored a "possible" with this writer,

who has been making caustic comments on the subject ever since he started the game of pistol shooting.

I know of a number of others who will be equally enthusiastic over Mr. Weston's article—and a few who will be on the other side of the fence. Personally, I am in favor of no alibis at all. . . .

WM. E. PETERSON.

Bayside, New York, N. Y.

SIRS:

. . . would be glad to see all alibi runs prohibited in all pistol matches. We see no reason for coddling the shooters, or encouraging the "chiselers" that deliberately take advantage of the opportunity that an alibi presents.

Baltimore, Md.

DAVID P. PLATT.

SIRS:

I can think of nothing in pistol shooting which would please me more than the complete elimination of the alibi shooting mentioned in Mr. Weston's article.

Schenectady, N. Y.

C. W. LA PIERRE.

SIRS:

The elimination of alibis in this region, where competitive pistol shooting is growing in popularity much faster than the various ranges can be enlarged, is doubly necessary. At present the delays caused by alibis in our matches cumulatively run into more than an hour's time in a normal shoot.

San Francisco, Calif.

L. B. KENNEDY.

● All of the letters in response to the article "Why Alibis" in the August issue agree with the samples above. Accordingly, the subject will be presented at the next meeting of the Executive Committee, action taken on the suggestions.—ED.

NEW SHOOTING RULES

SIRS:

I am mailing photographs of two approved (?) prone and kneeling positions, as called for



"The Butt Shall Not Touch the Ground"

in the new shooting rules. As a matter of record, the subject of the pictures is Johnnie Wark, Buffalo small bore shark. Johnnie is contemplating a career as a contortionist if the occasion ever arises.

Akron, Ohio

MERLE ISRAELSON.

REPLY TO TANANA

SIRS:

If you think you can take it, get set; if you can answer questions, be prepared, because here it comes, after brewing within me for over four years.

What chance has a poor man to participate in rifle competition today? Think it over. Should any trusting soul show up at even a minor shoot with less than a \$60 small bore rifle he would be sneered at and pitied. Mostly sneered at. (I know.) And unless it is equipped with an equally expensive telescope sight, he is classed as just plain ignorant. Further, he must place on view a spotting scope and stand, which costs \$25 up, mostly up. He must also be garbed in a shooting coat of orthodox pattern or be looked upon as a tramp. Oh, yes—I know that, too.

Or again, at a big-bore shoot, he must use a .30-'06 rifle. All others are regarded as unbaptized heathens. They are not even allowed to associate with the elite Springfields; not, at least, during matches. If such heathens desire to speak in their outlandish tongues, they may be allowed to do so some other day, when the enlightened .30-'06 brethren are not around, and there is no competition. Swell, what?

I used to shoot, at paper targets and at game. Possibly, I have carried firearms over more miles of trail, wilderness, mountain, swamp, snow and



Kneeling Position a la Wark

ice, than many who pose as authorities to the uninitiated. I have used the 1895 Winchester when it meant hit your mark or go without eating; made many a lonely over-night camp with a rifle and a .45 Colt for companions, in the white, sighting glorious hemlocks and pines; or in driving, blasting, searing snow storms when all Hell's fury seemed bent on searching out the last spark of warmth and fortitude in a man, to freeze it out of him. Gone to bed in wet blankets near a fire, or between two of them, to keep from freezing, with maybe a cup of tea or coffee and a bit of bacon to keep the belt buckle away from the backbone, and in the morning hunted for breakfast with the rifle or revolver. Maybe a rabbit, a grouse, a fool-hen or a squirrel. Even a muskrat, once.

And I helped organize 3 rifle clubs; dig pits, build target frames, grade firing points, coach beginners, lend them rifles, showed them how to reload, worked like the devil. Now, by thunder, I can't even shoot!

I can't buy a Model 52 or one of the new Remingtons to the tune of 50 to 75 smackers, and all that goes with it. My collection of hunting and target rifles, during the last five lean years, had to be converted into something we could eat. Ever have to sell a gun to give the kids a couple of meals? I hope not. One which you had cherished, petted, fondled and used for years? Or one which had been your companion on never-to-be-forgotten trips into the nation's backdoor-yard? Had saved your life on an icy, rocky mountain-side? Or one which you had polished, hand-honed, adjusted and tuned up until it was perfect? Just to EAT? I hope you'll never experience it.

Then to have a long, devastating illness, piling debt on debt, that you had to pay from moral obligation when you recovered; debts of such nature that you would not take the legal steps to avoid them? That took every cent you could scrape and still eat and provide barely enough clothes? To figure it so close that there was not enough over to buy a box of .22 Long Rifles a month? Hell, man, you ain't been nowhere yet!

So my battery has dwindled to a few which I'll always keep until the last reveille. But precious as they are to me, and good as their actions are, time and many rounds of ammunition have made their barrels unfit for competitive shooting. I can't afford a new barrel. So—I can't shoot. It is like telling a duck, "Never mind, little duckie, you have been nice to the other ducks who play out there in the water, so they can play, but your feet have been cut off. You be a nice duck and play here in the nice sand." Swell. Sure.

So—we get the idea of going back to reloading for the old .45. Lo and behold, to load now, one must have a straight-line, stream line, dollar line outfit which costs \$20 up, not including a mould. Everybody (N. R. A. Dope Bag included) says the old tools are no good—never were.

We look for dope on inexpensive shooting in the RIFLEMAN. It is full of dope on the new 4,000-foot wind splitters which cost plenty bucks, being made only in \$70 models or special custom jobs which cost as much or more.

Or, we find where "Barr made XXX with Federal CB caps in our such and such arm, but the day was windy or the light poor". Or—"the ammunition was some old Super Waluska of 1933 vintage which we had saved. The verticals were . . ." (poor). Not a sun-burned word about a plain, honest everyday shooting piece which a gun starved shooter can buy on his meager recreation balance. So I can't shoot.

Can't somebody put a barrel in my old 44½ Stevens, as good as the old factory barrel, at a decent price? Isn't there a real target accuracy .22 rifle without the magazine (which nobody uses) below \$40? Why can't I still use the old Ideal or Bond tools for the .45 Colt and .30-40 and make as good scores as I used to make?

By the way, I have not shot for 6 years, but I can still borrow a rifle and go over the Dewar course with not more than 7 down. I did it recently, without a bit of practice. Mentioned this merely to demonstrate that I can shoot if I have a chance.

Why must one have straight-line, automatic primer feed tools, with high speed steel dies now, when we used to get 4 inch groups or better at 200 yards, with the old tools? Is it a racket? Or are they just squeezing out us poor devils who helped build this game and are now down on our luck? Why, when we venture out to a shoot with an old smoke stick which we know is gilt edge for 10 rounds (the limit before its rough bore requires a brass-brush treatment) hoping to shoot in a match, we find we must shoot against telescope sights? Hell's bells, if I could do night work enough to earn a new barrel for my beloved old Stevens, I could shoot the pants off the young squirts who smirk at a single-shot rifle. Yes, and if I could again own a good Springfield and what goes with it, I too could enjoy its superb accuracy and the companionship of shooters. Enter into the work of the clubs; go to the state tryouts for the Perry teams and by God—go to Perry.

Now, I can't buy a box of .22's a month. Even the pip-squeak of a .22 in my hands would gratify a soul starved for the thrills the rifled tube can bring.

I feel it coming—the day when in the bitterness of my heart I will burn the shooting dope I have collected. When I will damn the beloved RIFLEMAN which describes the beautiful arms others have and I have not. Curse the glorious old names of Winchester, Stevens, Krag, Savage and the others. Unless there is some way I can shoot. Is there any way at all?

I can make stocks, hone actions, load .30-40 and .30-'06 (if I can get hold of a powder balance), design machinery, checker, polish, blue, test, target, sight-in, adjust and LOVE a gun. Can I earn a rifle, or a barrel and some ammunition any way at all short of stealing them or accepting them as a gift? Just once more before the sun goes down. These lean and non-shooting years have got me down. My only hobby and pleasure taken away and I feel lost and so depressed that it has finally gotten me to this state.

"TANANA".

● We agree with Tanana, but, however regrettable it may be, progress will outmode the fine old arms we learned to shoot with. It's the old story—a horse-and-buggy got us there once, but now horse-and-buggy money won't buy a Ford, and we can't side-step the amusement that so antiquated a mode of transportation would occasion. Our suggestion to Tanana is that he write—be can, and well; write for the sporting magazines, let us have a chance at his articles. If they hold the interest and drama of his letter, they would certainly be well received.—Ed.

(Future issues of "so they tell us" will not extend over more than a single page of the magazine. We thought "Tanana's" letter good enough, however, to make an exception "to prove the rule.")

Tournament Reviews

THE EXPERT TARGET AT WILMINGTON

The "First Registered American Expert Course" sponsored by the Marksman's Club of Wilmington, Delaware, was fired over their Farnhurst Range on Sunday, October 2nd. Close to seventy men registered and fired in the four events scheduled.

The honor of winning the first iron sight match of this type ever registered went to Seldon G. Warner of West Orange, N. J. Mr. Warner and Horace Smith, of Longwood, Pennsylvania, tied with 375X400. With both men 17 points down on the 100 yard stage, the tie was broken by Mr. Warner having shot a higher score on the last bull of that stage. R. D. Triggs, of Madison, N. J., finished third, with 371X400.

The second match was over the same course, with any sights. Again Horace Smith claimed a medal. His score of 378X400 placed him ahead of the field, with Major M. R. M. Gwilliam, of Madison, N. J., second with 377X400, and W. A. Stromeier of West Chester, Pa., third with 376X400.

Major Gwilliam won the third event, a sweep-stake aggregate of the first two matches, scoring 748X800. The fourth event, which was not registered, was an invitation team match, using the scores made in the first match. It was won by the Madison, N. J., team: S. G. Warner, 375X400; R. D. Triggs, 371; H. S. Cramer, 371; M. R. M. Gwilliam, 371; W. C. Kennedy, 369; total score 1857X2000. The West Chester Rifle Club finished second with 1795X2000, and Maryland Rifle Club, of Baltimore, Maryland, third with 1787X2000.

The general opinion of all shooters was that the new American Expert Course was one of great interest and value and that with a change or two on the target itself, the Course will soon be extremely popular. The Marksman's Club intends to make this match an annual affair for the shooter to wind up outdoor activities before going inside for the winter.—F. F. PALMER, JR.

FIRST REGISTERED HAWAIIAN PISTOL MATCHES

In 1933 the first Inter-Island Police Pistol Team Match was conducted on the respective islands for the Governor of Hawaii Trophy, presented during the régime of Governor Lawrence M. Judd. Such yearly "postal" matches continued until last year, when the first Territorial Law Enforcement Agencies' Pistol Team Matches were conducted on the Island of Maui, resulting in the staging of a "shoulder-to-shoulder" match for the coveted trophy. This year saw the continuation of the Territorial Law Enforcement Agencies' Pistol Team Matches. July 14, 15 and 16, held on Honolulu's Punchbowl Range, which is situated within a natural volcanic crater. The outstanding feature of these 1938 matches was the fact that this was the first year these events have been conducted as a registered National Rifle Association pistol meet.

The growth of the pistol game in the islands has been rapid. In 1933 there were but five six-man teams competing in the one and only match—the Governor of Hawaii Event. In 1938 the total rose to ten individual and four team matches, with 67 pistol fans competing, against 1933's total of 30.

As usual in island competition, Hawaii's pistol wizard, Dale Frazier, took the lion's share of the awards—eight out of eleven events, including the aggregate of the ten individual matches. Three of the team matches fell to the Honolulu Police five, who captured the Governor's Trophy. The fourth of the team events went to the Hawaiian Police team.

At a dinner following the matches, Mayor Charles S. Crane of Honolulu presented the

trophies and medals, with the exception of the Governor's Trophy, which was presented by Colonel P. M. Smoot, the Adjutant General of Hawaii, on behalf of Governor Poindexter.

WISCONSIN STATE SMALL BORE

Seeing the name of Marshall Grosskopf at the top of nearly every bulletin at midwestern small bore matches has become so commonplace that it no longer occasions any great surprise. The Wisconsin State matches held August 6th and 7th were no exceptions, when the veteran Marion shooter took a total of four out of five individual events and as a matter of course, claimed the aggregate of the five. The only match missed in his clean sweep of the meet was a Dewar Course event that fell to Fred Johansen, Joliet, Illinois. A second aggregate, counting scores in only the last two of the matches, was claimed by E. K. Waters, followed in second and third places by none other than the aforementioned Grosskopf and Johansen. A five man team match was carried off by the visiting Blackhawk Rifle Club, finishing 20 points ahead of the second place winners, the Milwaukee Rifle Club.

The pistol matches were the same story, as H. J. Netik, taking a cue from Grosskopf's performance on the small bore range, proceeded to annex all four of the handgun events. An aggregate of five assorted rifle and pistol matches was won by Edward Fuery, and a Junior match gave Bill Schiff and R. Brown awards in the older and younger junior classes.

DALLAS RIFLE AND PISTOL TOURNAMENT

Although nothing was said about it in the program, the Twelfth Southwestern Pistol and Small Bore Rifle Tournament, conducted at Dallas, Texas, September 17 and 18, was arranged in such a manner as to give all competitors an opportunity to compare the scores they fired under adverse wind conditions with those fired in an absolute calm. Quite fittingly, it was the first of the two days that was perfectly calm—a shooting tyro's heaven. Conditions on the range were even better than you will normally find on an indoor gallery. Every shooter who knew how to hold 'em and squeeze 'em had an equal opportunity with the most grizzled veteran on the line and at the end of the day it was discovered that two shooters had lost their tyro status by placing first in individual matches. Young Jim McCubbin, just passed his eighteenth birthday, was not nearly as proud as his father, the chief statistical officer of the matches, when his name appeared on the bulletin twice in second place and once in first place out of three matches. In two of the events, one at 50 yards and one at 100 yards, he turned in 400 possibilities—excellent shooting under any conditions.

The second day was the veterans' day at this tournament. The wind howled along the banks of the Trinity River and made every shooter on the line call upon all his knowledge of the finer points of rifle shooting and wind doping to keep all shots even in the 9-ring. R. C. Pope, who had been so far behind the leaders at the end of the preceding day's shooting that he was ready to sell his equipment to the highest bidder, brought out a brand new rifle and ammunition and went gunning for aggregate honors. He stuck his chin out, forgot about the wind which was bothering all the other shooters and finally ended with a score of 2774 x 2800 to take the aggregate by a single point from Thurman Randle. Mrs. L. T. Bartlett of San Antonio ended in third place.

The second day's wind did not have nearly the effect on the pistol shooters as it did on the riflemen. The Shreveport (La.) contingents were especially oblivious to weather conditions as they breezed on to one first place after another. R. B. Wilzewski, W. M. Gooch and D. O.

Wilkerson placed first in one match apiece on each of the two days, thus proving that the pistol shooters at least are able to turn in consistent performances regardless of the weather.

OUTDOOR PISTOL AT AKRON

The Summit County Pistol League held its Second Annual Outdoor Pistol Tournament on Saturday and Sunday, October 1st and 2nd, featuring the National Convention of the Fraternal Order of Police. This was their 22nd Annual Convention, and the first time they had felt sufficient confidence in a local pistol organization to attempt a tournament of the size and scope desired.

There were 98 competitors registered, a record for pistol tournaments in the state of Ohio, with the exception of the National Matches at Camp Perry.

Al Hemming of the Detroit Police was easily the outstanding performer. Already holding two world's records, he came to Akron and just took about everything that wasn't nailed down, but his good natured grin, and the cheery twinkle in his eyes took the sting out of it for the "also rans." When D. S. Benson of Akron beat him one point in the 38 slow fire match and only two points behind Lou Sanderson, Al's team mate, and winner of the match, Benson said he was going on a two day drunk by way of celebration.

Scores in all the matches were close. Generally only a point or two separated medal winners, with a pretty general distribution among the shooters (after Hemming got the trophies out of the way). The Akron boys gave a good account of themselves and kept a fair share of the medals at home. C. F. Benson, 17 year old son of D. S. Benson, took 3rd in the Grand Aggregate of the three calibers over the National Match Course. Yes, even the boys at Akron shoot hand guns, and some of them require Al Hemmings to beat them. C. Mock, another 17 year old lad, took a silver medal in the 22 caliber National Match.

In order that the lesser lights might have a chance to win a decoration the single stage matches were divided into A and B classes with three places in each class. Three places in each of the Expert, Sharpshooter, and Marksman classes were rewarded in all the National Match Courses. In all, there were 12 trophies and 85 medals distributed with a total value of \$785.

Much interest centered in the F. O. P. Championships, both individual and 4-man team. H. W. Grossglauss, special officer in the Stark County Prosecutor's office, Canton, Ohio, won the individual, and a 4-man team from Cleveland, Ohio, Lodge No. 8, won the team championship. Akron Lodge No. 7, team No. 1, took 3rd in Class A, and team No. 2 took first in Class B. The Ohio Valley Revolver League of Pittsburgh entered two teams in the Open 4-man team match. Team No. 1 took the trophy and 4 gold medals and team No. 2 took third and 4 bronze medals. The Pennsylvania R. R. Police, "Golden Arrows," were in the middle for 4 silver medals.

W. H. Jacobs, President of the League, did his usual thorough job in charge of the statistical work. There wasn't a single protest. Grover L. White was in charge of registrations and prevented any real delay or long lines at the window. Expenses of enlarging the range and extensive preparations prevent financial profit from the tournament but we enjoyed having such high caliber competition and hope they will all come again.—J. C. KELSEY.

TIDEWATER PISTOL CHAMPIONSHIPS

Brady Utz, Narbeth, Pennsylvania shooter, and "Herb" Ammundsen, a building contractor of Plainfield, New Jersey, both major threats at any pistol meet, dominated the October 1st and 2nd handgun matches staged in Wilmington, Delaware, on the splendid Farnhurst range. The shoot was staged under the banner of the Marksman's Club of Wilmington.

Ammundsen, with Mr. and Mrs. H. V. Noble, a well known shooting couple from Erlton, New Jersey, landed on top of the bulletin in nearly every match of the Saturday schedule. The first event, over the Camp Perry Course, found Mrs. Noble ahead of her husband in top place, followed by Ammundsen in third. The next three, however, reversed the order, with at least one of the Nobles landing below Ammundsen.

In Sunday's matches a newcomer to the top line, L. Hathaway of Bala-Cynwyd, Pennsylvania, came into first place in the Camp Perry event with the .38's. A District of Columbia shooter, E. A. Frye, won the .38 caliber Huber Trophy event. The second, third and fourth, .38 slow and rapid fire, fell to Brady Utz. A restricted class event was won by H. R. Weaver of Merion, Pennsylvania. Mrs. Noble added another trophy to her collection when she defeated all of the feminine talent on the range in the Women's match.

NON-REGISTERED EVENTS

ILLINOIS—Milan Rifle Club Shoot. Emory Hawcock of Monmouth, Ill., won top honors in the seventh annual midwest rifle and pistol championships sponsored by the Milan Rifle Club and fired August 8th. He was defending his 1937 title, and withstood a 2-day onslaught by the cream of midwestern riflemen.

Second place went to Harry Potter of Downing, Mo., who finished with a 1070 against Mr. Hawcock's 1072. Both small bore and service rifle competition was included in the firing, and the champion had a 1-point margin in each class. Third place went to George Thielen of Moline, with 1069.

Three trophy matches were on the program. The Freeland trophy, new this year, was won by Oliver Parker of Rock Island. The Hawcock match was won by Mel Kobler of Monmouth, and Harry Potter, a Downing, Mo., banker, took home the Rosenteil. The Freeland trophy event was fired on the new expert targets at 100 yards. The Hawcock and Rosenteil were at 50 and 100 yards with half the shots at the longer distance on the new targets.—Rock Island Argus.

NEBRASKA—The Corn States Rifle and Pistol Meet, staged at Omaha, September 18, was not favored with good weather. A stiff, cold wind harried the competitors during the entire day of the shoot. Fortunately, this did not discourage the assembled shooters, who faced the cold stoically, and, conditions considered, turned in very remarkable performances.

The Kansas City Police group captured practically all of the honors in the pistol events. They were headed by husky F. M. O'Connor, who took four awards. O'Connor's nearest competition was in the person of Oliver Yanick. St. Louis pistol shot, whose aggregate score fell 12 points behind the Kansas City officer. Joe Franano, another of the police group, came to the top in scoring 281 out of a possible 300 in winning the W. D. Lane Trophy.

The rifle match was attended by a number of out of state shooters, among them Chris Westergaard, a veteran of many meets, who came from Whiting, Iowa, to compete. The 360 Club, on whose range the matches were staged, held its own very handsomely in the face of stiff competition.—N. C. NELSON.

PENNSYLVANIA—The McKeesport Sportsmen's Association's September 18th small bore shoot found 31 shooters entered in the four match program. Worried by a wind that seemed unable to make up its mind which way to blow, the shooters found possibilities few even in the 20-shot matches.

A 50-yard event went to Craig Rider, who turned in the only possible. F. Thompson snared a 30-shot match on the same target and Paul Bissel's 399 was high in the Dewar. The final match, 20 at 100, iron sights, was won by Thomas Elby with the only possible in the event. The aggregate went to C. A. Bickerstaff.

WISCONSIN—A small bore shoot at Black River Falls, the first ever held in Jackson County, was staged September 4th by the members of the local Gun and Skeet Club. A program of three prone matches and an aggregate drew twenty competitors to the line. To A. J. Neys went the trophy for his high total of 986 with 47 X's. In addition to the prone events, two offhand matches were scheduled, one for any small bore rifle and another for sporting weight .22's.

As an outgrowth of this shoot, the towns of Tomah, Sparta, Black River Falls, Viroqua, Westby, Independence, Osseo, Blair, Galesville and Richland Center are forming a Western Wisconsin Small Bore League for gallery shoots this coming winter.

OHIO—The Summit County Rifle League's 1938 Northeastern Ohio Championship matches, held August 7th on the range of the Kent Rifle and Pistol Club, Kent, Ohio, saw some fine shooting in the 200-yard A. C. & Y. Trophy team match. Top three teams finished with only one point separating the scores. The winning five-man group, representing Kent, finished with 976, followed by Portage, 975, and Canton, 974. High individual scores were three 197's, one each on the placing teams.

"AM I A TYRO?"

This question is being asked more and more frequently, both at tournaments and by letter to the Headquarters office, so we take this opportunity to clarify the N. R. A. definition of "tyro."

Unless you have won a trophy or competition medal in an open event at an N. R. A. Registered Tournament or Postal Match, a U. S. R. A. Match (in case of pistol shooters), a match conducted by an N. R. A. affiliated State Association, a Corps or Divisional Match of the Army, Navy or Marine Corps (this includes the National Individual and Team Matches), or State Matches of the National Guard or Naval Militia you are still a tyro.

The winning of either a team or individual medal in any such open match takes the shooter out of the "tyro" class except that a shooter starting a tournament as a tyro remains a tyro throughout that particular tournament regardless of medals won there.

As each class of competition—high-power rifle, small bore rifle and pistol or revolver—has its own separate tyro status a shooter may be a tyro in one class and not in the other two. Winning a medal in an open small bore rifle match does not take away your tyro status in pistol or high-power rifle matches.

The winning of trophies or medals in Tyro, Restricted or "Class B," Ladies or Junior matches does not remove a competitor from the tyro class as these are special class awards and not "open" events. Qualification, rating and percentage medals do not disturb a shooter's tyro status.

POSTAL MATCH PREVIEW

(Continued from page 39)

consideration when making entries and returning targets. And a good slogan is "Better a week early than a week late."

5. The preparation of bulletins, substantiation of scores, and mailing of medals all take time. Each will be taken care of in due course.

6. The Protest is the "Sacred Right" of the competitor. If there is a serious error apparent in your score do not hesitate to use it. . . In the handling of large numbers of targets mistakes are bound to occur occasionally in scoring and posting. Do not let such a mistake cost you a fine prize.

7. Cooperation is the key to the success of these matches—cooperation from club secretaries, range officials, witnesses, and above all from the competitor himself.

Let's make the 1938 Gallery Postal Matches live up to the fine expectations we all hold for their overwhelming success.—C. R. ROGERS.

BOOK REVIEWS

THE RIFLE IN AMERICA

By PHILIP B. SHARPE

Characterized, as his other writings have been, by a vast amount of compiled data, sometimes purposefully arranged, at times irrelevant to an extreme, Phil Sharpe's latest effort, a huge volume on the rifles of this country, will for some fill a long felt need, to others serve as another example of misguided effort. Mr. Sharpe has attempted the titanic task of tabulating, describing, illustrating all of the models of American rifled arms of the present and recent past. How well he has succeeded will rest largely with the individual reader. To this reviewer, looking at the volume from the angle of the arms collector, the answer is in the negative. To the modern arms enthusiast, who will expect a mass of detailed descriptive data bearing on the arms he uses or may use, the book undoubtedly will justify its cost.

Minor shortcomings are evident at first glance. In browsing through its pages we are prone to wonder why, for instance, the story of the Kentucky rifle was entirely omitted in favor of data on early Springfield *smoothbore* muskets, already available in better form in the writings of Claud E. Fuller? And why so much space devoted to obsolete percussion and primitive cartridge arms that have been equally well covered by former writers? Why, too, do the bibliographical references in the first part of the book refer the reader in nearly every case to obscure, seldom available German tracts when the same references, translated into English, are readily found in numbers of other volumes easily secured at smaller libraries? Original source records, properly transcribed, are of great value in a scholarly treatise, but this volume can hardly make that claim. These faults and omissions are balanced however by the value of its detailed and apparently complete check list of former and present productions of modern American manufacturers, descriptions that should make identification of models and types of these arms an easy matter.

In compiling this gargantuan treatise, Mr. Sharpe has, it seems, fallen wide of his mark. The volume cannot be called a history of the rifle in America, for it lacks that scholarly treatment that should be a part of such an account. Nor is it a book with the practical value to the shooter that Townsend Whelen's now out-of-date American Rifle was. The impression it gives is that of a huge, meticulously, though loosely, compiled gun catalog. As such it will find a place on the bookshelves of gun lovers.—J. K. SCOFIELD.

641 pages. Illustrated from photographs. Published by William Morrow & Co., New York. Price, \$7.50.

ED MCGIVERN'S BOOK

By ED MCGIVERN

This book, "on Fast and Fancy Revolver Shooting," deals, authoritatively, with the subject of ultra-fast revolver shooting. It is an important and truly unique volume. It is the first full-fledged book on double-action shooting. It is the only textbook and reference work which explains the fundamental mechanics of ultra-fast revolver work, teaches the methods of acquiring effective control in double-action shooting, and exactly defines the ultimate degree of proficiency possible to a graduate.

The author's attitude towards oppositional opinions is one of deference. Ever considerate of those who have acquired different views, he is always kind and avoids antagonizing when he cannot avoid clashing with prevailing beliefs. He carefully disclaims any intention of supplanting old methods of instruction, but proposes his technique of double-action shooting as an advanced supplementary course for those who have already mastered the conventional single-action system of slow-fire and rapid-fire.

Each of the thirty-odd sections of the book deals with some phase of fast handgun work, including such branches as hip shooting, quick-draw, moving targets, aerial work, timing methods and equipment, stunts with the single-action, long-range shooting and police training. There are a dozen sketches and more than 400 cuts from photographs. Many of the illustrations have long legends which are interesting and more readily assimilated than the text. The latter is lengthy and somewhat involved in places.

It is not a book for skip-readers or paragraph-jumpers who will miss much that is essential unless they curb their impatience and faithfully follow the author's wordy sentences and frequent repetitions. His characteristic thoroughness and the painstaking care with which he prepares the reader are responsible for some of the introductory drag. The arrangement is excellent, and by it the author progressively advances his ideas and his message. The logic of his argument and his many proofs are impressive. The most confirmed skeptic will probably become convinced if he will faithfully read every paragraph. It is an informative book well worth owning as a reference work alone, and worthy of any time required for a careful reading and thorough digest of all its contents. Obviously this is so. Years of patient practice with thousands of dollars worth of ammunition are back of Ed McGivern's Book.—F. C. NESS.

484 pages. Illustrated from photographs. Published by the King-Richardson Co., of Springfield, Mass. Price, \$5.00.

COMING EVENTS

ARIZONA

*December 4: Pistol Association of Arizona Matches at Phoenix, Arizona. For programs write C. Howard Hathaway, P. O. Bin 71, Tucson, Arizona.

CALIFORNIA

November 20: 6th Annual Muzzle Loading Rifle Matches to be held on the Santiago Rifle Range in Irvine Park, California. Sponsored by the Southern California Arms Collectors Association. For programs write Roy S. Horton, 113 1/2 N. Main Street, Santa Ana, California.

*November 20: San Francisco Traffic Revolver Club Monthly Match at San Francisco. Sponsored by the San Francisco Traffic Revolver Club. For programs write E. J. Dutil, 324 16th Avenue, San Francisco, Calif.

*December 18: Southern Calif. Pistol League Match at Los Angeles. Sponsored by the Los Angeles Revolver League. For programs write Lt. J. A. Bartley, Police Headquarters, Los Angeles, California.

*December 18: San Francisco Traffic Revolver Monthly Match at San Francisco. Sponsored by the San Francisco Traffic Revolver Club. For Programs write E. J. Dutil, 324 16th Avenue, San Francisco, Calif.

GEORGIA

*November 1-2-3: South Atlantic Regional and Georgia State Championships to be held at Savannah, Georgia. Sponsored by the Savannah Police Revolver Association. For programs write Captain J. J. Clancy, Police Department, Savannah, Georgia.

INDIANA

November 20: Old Trails Pistol Matches to be held in Richmond, Indiana. Sponsored by the Old Trails Rifle and Pistol Club. For programs write J. V. Little, 340 S. W. 3rd Street, Richmond, Indiana.

NEW MEXICO

November 27-December 4: Pioneer Pistol Match sponsored by the New Mexico Rifle and Pistol Association. For programs write Burton L. Smith, Box 905, Santa Fe, New Mexico.

NEW YORK

November 20: Roslyn Annual Turkey Shoot to be held at Roslyn, New York. Sponsored by the Roslyn Rifle and Revolver Club. For programs write P. Johnner, East Williston, New York.

*January 21-22: Niagara Frontier Indoor Small Bore Tournament to be held at Buffalo, New York. Sponsored by the Buffalo Revolver and Rifle Club. For programs write C. M. Bickers, 187 Leroy Avenue, Buffalo, New York.

OBITUARIES

Major K. K. V. Casey. As we go to press word has been received of the death, on October 18 at Wilmington, Delaware, of Major K. K. V. Casey, old-timer of the shooting game and official of E. I. duPont de Nemours & Co. Major Casey was a director of the National Rifle Association and member of the National Board for the Promotion of Rifle Practice. A more detailed account of Major Casey's life will appear in our next issue.

Arthur W. Savage, 83, inventor and founder of the Savage Arms Company of Utica, New York, was found dead September 22, in his San Diego, California home. His death was the result of a bullet wound. A gun was found at his side.

Savage was one of the most prolific of American firearms inventors. He placed on the market one of the first hammerless repeating rifles, designed others that were among the first smokeless powder arms.

Born in Jamaica, West Indies, in 1857, Mr. Savage was educated in England. Arriving in Utica about 1890 he became manager of a local street railway company. He later went to Saratoga Springs, New York, but returned to Utica and organized the Savage Arms Company, becoming managing director of the concern. He stayed in Utica until 1905 when he went to California and engaged in the orange growing business. In San Diego he formed the Savage Tire Company, a \$5,000,000 corporation of which he was the vice-president.

Colonel Joseph Grant Ewing, 72, retired official of the E. I. du Pont de Nemours Company of Wilmington, Delaware, died August 24 at his home in Washington, D. C., after a long illness. Col. Ewing was widely known as a rifle and smokeless powder expert. Until his retirement in 1914 he was for some time manager of the bureau of advertising of the du Pont Company, and manager of its smokeless powder division.

STOLEN GUNS

Stolen September 10th: 1937 blue Willys sedan, California license 79 A 667, motor No. 32782. In the car were four pistols: .38 Colt Official Police, 6" bbl., King sights, widened hammer, special grips, owner's name engraved on frame; .22 Woodsman, No. 105506, 6" bbl.; .44 Remington C&B, round barrel, ramp front, adjustable rear sight; Benjamin air pistol, checkered Colt grips. Notify J. R. Cain, 1640 Hayes Street, San Francisco, California.

.380 Colt Automatic, No. 46422. Stolen about the 21st of August in Nassau County, New York. Notify Arthur C. Weyman, 9 De Kalb Avenue, Brooklyn, New York.

Remington Pump Shotgun, 12 Ga., No. 10235, Model 31. Stolen September 15. Information may be forwarded to the Pennsylvania Motor Police and to Raymond E. Caspar, Jr., 727 No. 5th Street, Hamburg, Pa.

Colt Officers Model, heavy barrel, No. 603377, Pachmayr wide spur hammer, wide trigger, name engraved on frame. Stolen at Canap Perry. Notify Martin Taylor, 2230 Courtland Ave., Detroit, Michigan.

CHALLENGES

The 3100 Civilian Rifle and Pistol Club issues a challenge to any local teams for shoulder-to-shoulder matches, to be fired on their new range at 21-34 30th Avenue, Long Island City, New York. Contact Ray O'Connor at the above address.

The Newark-Essex Rifle and Revolver Club, Inc., would be glad to hear from other clubs or teams in regard to matches or tournaments. Get in touch with Jacob Eisen, Secretary, 924 South 20th Street, Newark, New Jersey.

DOPE BAG . . .

Conducted by F. C. NESS

Game Shooting with handguns has been the consistent practice of Gordon C. Boser over the past decade. He is a licensed firearms dealer in Erie County of New York state. Records he has kept are interesting and informative because he has done more of it than any dozen average shooters, perhaps more than any hundred.

While quantities of lesser pests (snakes and red squirrels) were killed with CB caps in a 6-inch Stevens pistol and with .22 L. R. "Speedsters" in a 4½-inch P.P. Sedgley-Colt, his comparative-killing-power data deals principally with the woodchuck, which Boser found far tougher than the porcupine. Loads which "blew cotton tails to bits" proved none too effective on chucks. The .22 proved feasible only at short ranges which permitted spine or brain hits. Chucks were occasionally killed offhand at 100 yards and up to 180 yards from the two-hand prone position, but the bulk of the records deal with reasonable handgun ranges (up to 50 yards). Nearly 100 different handguns were used to kill 161 chucks, besides which, of course, many were missed and about 20% of this remainder were hit and lost. Previous to this 9-year period a much greater number of chucks had been bagged by Boser's other handguns.

Boser was amazed at the uncanny killing power of the paper-weak .25 A.C.P. Training on "loads" of red squirrels, he eliminated the Colt and Orgies pistols in this caliber and adopted the 3-inch Mauser for his best proficiency and bagged 23 chucks with the .25 A.C.P. cartridge, plus 10% no-kill hits.

The .32 A.C.P. was tried in the same three makes of pistols and passed up as hopeless for him, because he missed too many chucks with any of them.

The short-barrel (3¼" and 4¼") .30-caliber Luger proved to be more effective. Boser's favorite load was 4.7 grains Unique behind a 92-grain, .311-inch, hollow-point, lead bullet. This load "blowed apart" cotton tails but required head or spine shots for dependable killing of chucks. Besides misses and 6% no-kill hits, 61 chucks were bagged with these two short Lugers. Another effective load in the 3¼-inch Luger was 11.0 grains of 2400 behind the 80-grain, .32-20, O.P. bullet.

The .32-20 revolver and factory loads proved to be sufficiently accurate but incapable of sufficient expansion with jacketed bullets. A few handloads of 6.2 grains Unique with a 80-grain bullet were also used. He used nearly a dozen different guns in this caliber, of which the 5-inch M. & P. Smith & Wesson was best liked. Besides a few misses and a high proportion of no-kill hits, 88 chucks were bagged with the .32-20 caliber.

In several revolvers the .32 S. & W. Long "gave a good account of itself" with a low ratio of no-kill hits and very few misses. He used the same 92-grain hollow-point bullet (sized .313-inch) and 4.2 grains Unique. Only 12 chucks were bagged, but a great number of squirrels were killed with Winchester factory ammunition in a 7½-inch Officers' Model Colt of this same .32 Colt Police Positive caliber, it being interchangeable with the .32 S. & W. Long cartridge.

The .380-caliber Colt and Savage pistols gave him two-dozen misses and only two kills. Results were much similar to those obtained with the .32 A.C.P.

The .38 A.C.P. in the short Pocket Model and the Super .38 were used with open-point and soft-point factory loads. Hard nose bullets went straight through and the soft point was not much better. The R. A. Super .38 O. P. killed chucks very reliably, but practically no better than the .30 Luger handload. An even dozen were bagged with the .38 A.C.P.

The .357 S. & W. Magnum cartridge was tried in a 5½-inch S. A. Colt, and it did well on body shots, plainly dealing a greater shock effect than the Luger or .32-20. One 12-pound chuck was hit in the nose and the bullet expanded

sufficiently to lodge in the hip. The Ideal-Keith 173-grain bullet was made hollow-point to weigh 153 grains and backed by 14.0 grains of 2400 powder. This load tore 2-inch holes in half-grown kits, but showed no destruction on the hides of full-grown groundhogs. Here was a gun which lost no game. Two chucks were missed, but all those hit (11) were bagged. However, Boser greatly preferred the .38 Special caliber.

With the .38 Special he killed 125 chucks and had a very small proportion of misses or no-kill hits, all the latter with factory loads. The 200-grain, Super Police, factory load did very well, but after 300 shots Boser's light-frame Police Positive Special loosened up in its various joints too much. His best outfit in this caliber was a 31-ounce, M. & P. S. & W. with 6-inch barrel, and 6.3 grains Unique behind the Ideal-Keith bullet used in the .357 Magnum. This load killed on paunch hits, and he made 25 straight kills on chucks. There were several misses and 4 no-kill hits. It seemed to kill as well, creating even greater tissue disruption, as compared with the more powerful load in the .357 Magnum employing this same, No. 358311, bullet. Boser found the flat-nose .38 Colt Special factory bullet killed well at short range, accounting for 30 chucks on well-placed hits.

The .41 Colt was tried in two 4½-inch revolvers, one of which was the old Colt Lightning, considered by Boser to be the poorest performer of all old Colts. Eventually he made a desirable arm of it by having Sedgley convert it to .22 caliber. With the .41 Colt he missed 40 chucks and killed 4.

Boser killed hundreds of pests, including 106 chucks, with a 5½-inch S.A. Colt in .38-40 caliber, previous to the past ten years. He found little success in his handloading, the more-powerful Peters Semi-Smokeless loads proving best in this revolver. With it he killed one chuck at 125 yards and another at 180 yards. He considered this .38-40 inferior to a properly loaded .38 Special.

The .44-40, tried in six different revolvers, was the equal of the .38-40 with factory loads, and much more successful with handloads. He used the W.R.A. 200-grain lead bullet and 11.1 grains of Unique. It killed better than the .38-40 but he could not hit as well with it. The result was: only 16 chucks bagged with the .44-40.

The .44 Russian and .44 American were tried in S. & W. and Colt revolvers, accounting for 11 chucks but also too many no-kill hits. He blamed the conical shape of the factory bullet in these, and in the .44 Special cartridge, for lack of killing effect. In the latter he had great success with his handloads outthitting and outpunching the powerful .44-40 handload. In the .44 Special he used 9.0 grains Unique behind the 250-grain bullet, Ideal No. 429336. In his pet 5½-inch S.A. Colt this load bagged 25 chucks. He found it superior to other calibers in shocking power and fully as accurate as his finest .38 Special. With the Modern-Bond 240-grain bullet No. A-429750 and 5.3 grains Bulseye he has made six straight kills on small red squirrels up to 75 feet, shooting offhand. He had very few no-kill hits with the .44 Special.

The .45 S. & W. Government (slightly shorter than the .45 Colt but interchangeable in the .45 Colt chamber) was used in an S. & W. Schofield model and killed slightly better than the .44 Russian or .44 American had, or better than the .44 Special factory loads. In killing effect, this old blackpowder .45 S. & W. cartridge equalled the .45 Colt smokeless factory load. Out of 10 chucks shot at 6 were killed.

The .45 A.C.P. and .45 Auto Rim lead-bullet were tried, respectively, in the Service pistol and in the S. & W. Model-1917 revolver. The former proved to be a very poor hitter, and the latter killed best also, with the Peters flatnose heavy bullet. About 75% clean misses were experienced and 6 chucks were killed. Boser likes the

S. & W. Model-1917 revolver but greatly prefers the .45 Colt caliber in a Single Action Colt.

The .45 Colt caliber accounted for the most chucks, because it was used most. The total was 260 killed with several different revolvers in this caliber. The old D. A. Army did not do so well, and the New Service model was too large for Boser's hand. His best results were had with the S. A. Colt variously equipped with 4¼, 5½ and 7½-inch barrels. He missed about 30% of the chucks he shot at and lost a few on hits with factory smokeless loads.

The best killer was the Remington, 40-grain, black powder factory load, which was also very foul. The Bond 190-grain wadcutter, No. 454510 with 11.8 grains of Unique was an excellent short-range killer. The extreme loads of 2400 and No. 80 killed well but gave few hits and caused gun strain. The cylinder-stop notches eventually bulged and the ratchet cut into the breach under the continual pressure and pounding of the (20,000 to 25,000-pounds pressure) extreme loads. The .357 Magnum proved more effective than the .45 Colt as a consequence. However, a 300-grain lead bullet (.45-60 caliber but sized .454-inch) backed by 8.5 grains of Unique in the .45 Colt seemed to have greater shocking effect than the .357 Magnum, or to equal the most powerful handloads in the .44 Special.

The .455 Colt New Service and the .455 Webley Service revolvers were tried with the Webley VI round-nose bullet in blackpowder loads. Because of the grip handicap on the Webley revolver, 25 chucks were missed and only 5 killed with this caliber. The actual killing effect was akin to that of the .44 Russian.

The summary would indicate that the best factory-cartridge game gun is the .357 Magnum, but that the .44 Special with handloads is the first choice. Boser has only recently begun to kill chucks with this caliber which accounts for the comparatively low number. In view of this shorter period of use, the .44 Special has one of the best efficiency records, and he expects it to lead all others eventually. The most amazing killing performance was that of the .25 A.C.P., which outclassed the .22 high-velocity, the .32 A.C.P. and the .380 A.C.P. in practical effectiveness. It is surprisingly accurate too.

300 H. & H. Magnum is too great in powder capacity to prove efficient with light loads, or cheap and light bullets, says B. Frank Manner, P. O. Box J, Sarina, Ontario, Canada. The only practical cheap bullet of normal weight in his tests was the 170-grain B.T. metal cased in .30-30 caliber, which proved accurate up to 300 yards. He used 58.2 grains of 4064 which held the factory-load zero at 300 yards. His scope is sighted for the W.R.A. 180-grain load. Because these .307-inch bullets caused breech discoloration he dropped them in fear of throat erosion. (All U.S.C.Co. and W.R.A. 30-30 bullets in 170-grain weight which we have miked were a full .308-inch diameter—F.C.N.)

Mr. Manner's tests eliminated all light bullets except the 93-grain S.P. Luger pistol bullet, which proved quite practical with 60 grains of 3031 powder. It shoots right on at 200 yards using the 300-yard zero of his outfit and is finely accurate. Beyond 200 yards this light bullet requires too much wind allowance. A neat trick turned in by Manner was to make a bullet mould for a 150-grain lead-alloy bullet relieved 3/16-inch at the base for a deep gas check .02 inch thick. This copper cup was tinned inside and heat-soldered fast to the bullet by an electrical heating attachment on his press. They are virtually short-jacket bullets, with their 3/16-inch copper base, when so made. There is no grease in the bullet grooves. He applies his lubricant by dipping the exposed bullet nose into hot grease up to the case mouth. He says that at 2400 f.s. it has the common gas check load "skinned seven ways".

In the .300 Magnum, Manner found duplex loads necessary for proper ignition and adequate combustion with any load of 3031 powder and with any charge lighter than 40 grains of 4064. His duplex loading consisted of an addition of pistol powder (5 to 7 grains) or bulk shotgun smokeless (10 grains weight) shaken into the load. The theory is that the quicker load ignites and reaches its pressure peak in advance of the slower and heavier charge of rifle powder, whose peak then is reached after the bullet's inertia has been overcome and after the powder space has been appreciably increased. If true, this favorable combustion action would obviously result in lower initial pressures, lower total pressures, less bullet deformation, less throat erosion, improved accuracy and greater velocity. That is exactly the effect which Mr. Manner and all his many predecessors experienced when firing their duplex loads.

Duplex loading is an old trick in hand-loading, and many methods were used to control combustion, in addition to the one employed by Mr. Manner as described above. The most common method, and perhaps the simplest and safest, is to use a blackpowder primer and a small booster charge of black powder to insure good ignition and combustion of a coarse slow-burning smokeless powder. Combination loads were used in shotguns to simulate the progressive burning effect of Oval and Herco before these propellants came on the market.

In rifle cartridges many expedients were used for segregating and holding the two different propellants in a given case. Copper and cardboard tubes, layers of tissue and even perforated capsules were employed as a means of separating the quick powder from the slow-burning type. In some methods the usual sequence is reversed by delaying the ignition of the quick-burning part of the load until the bullet has moved into the barrel and the initial pressure peak has been passed. While such loads are practical when properly loaded, they must be developed experimentally, which is a job for the ballistician and advanced experimenter and not for the amateur reloader.

Captain M. M. (Mel) Johnson sent me some interesting photos of his latest Johnson Semi-Automatic in action, but too late to publish in this issue. The series of action shots shows Mel shooting his .30-'06 autoloader as a southpaw, vertically and in one hand, a la pistol. While most of these stills show an ejected case in the air, one of them shows two in the air and a blast of gas and smoke issuing at the muzzle. One trick he succeeded in doing was to bounce a small milk can off the water with his first shot and then hit it twice before it fell back.

Professor Edgerton of Massachusetts Institute of Technology has developed a method of taking ultra-high-speed photographs in motion pictures and stills. One of his stills, taken of an autoloading rifle while it was being fired, is shown in this issue as a part of the lead article. I have also viewed a strip of his high-speed movies showing this same Johnson Semi-Automatic in action. These Edgerton photos provided the basic proof for the statements on relative timing made in my story of the Johnson rifle.

Krieghoff Autoloading Rifle in .30-'06 and other high-power rimless calibers is listed at \$500.00 by Stoeger Arms Corporation, and to me it is the most exciting item in their new catalog No. 31. It is a gas-operated arm, the gas tube under the barrel giving it the lines of an Over-Under shotgun. Because of its very short receiver it has better lines than any high-power auto-loader I have seen, and its weight is only 7 pounds, which is a new low for such arms. The action is locked by a vertically-moving block which comes up behind the cartridge in the chamber, and the action is enclosed. The loading-port cover swings open on the left side of the receiver, leaving no unsightly projections on the bottom. Weight, lines, caliber and

external equipment appear admirably adapted for American sporting use, but nothing is known of its practical performance as yet.

Dope on Entering Canada and information on the requirements pertaining to such entry by our sportsmen can be obtained from The Canadian Travel Bureau, Ottawa, Canada. For a copy of the game laws for any Province desired, address Controller, National Parks Bureau, Department of Mines and Natural Resources, Game and Fisheries Branch, Ottawa, Canada.

Non-residents must have a weapon permit (Form 76B) to have a shotgun or rifle in Canada, and a permit (Form 76) to carry a revolver or pistol in Canada. These weapon permits are obtained from the Attorney General of the particular province involved. That for the rifle or shotgun may be obtained after entry. That for the handgun must be obtained before entry and the issuer must be satisfied it is necessary for the protection of life or property.

In addition, and also before entry, a special importation permit for revolvers or pistols must be obtained from the Department of National Revenue, Ottawa, Canada. Automatic pistols are barred. Rifles and shotguns require no importation permit and no cash deposit upon entry. All the above is required in addition to the game law requirements which latter regulates the use of the rifle or shotgun by issuing such permission in the form of a non-resident hunting license.

Service and Regulatory Announcements of the Bureau of Biological Survey (S.R.A.-B.S. 92) is a bulletin of "regulations relating to migratory birds and certain game mammals" covering federal laws in the various states and transportation of game in North America. Of greatest general interest is the appended list of officials from whom copies of local game laws can be obtained, including all States, Canadian Provinces, Alaska, Hawaii, Canada, Newfoundland and Mexico. The latter official should be properly addressed: "Jefe, Departamento Forestal y de Caza y Pesca, Calle de Edison 145, City of Mexico, D. F." For Alaska, "Executive Officer, Alaska Game Commission, Juneau; or the Secretary of Agriculture, Washington, D. C." For Hawaii, "Fish and Game Division, Commissioners of Agriculture and Forestry, Honolulu". For Newfoundland, "Clerk, Game and Inland Fisheries, Department of Natural Resources, St. Johns". For Yukon, "Territorial Secretary, Dawson".

M-37 Remington "Rangemaster" Barrels are giving a most excellent account of themselves when used with jacketed bullets at 4000 f.-s. or thereabouts. R. E. Davis, gunmaker of Grand Island, Nebraska, has two of them and Rex Jewett has another of these small-bore barrels on their .22-.30-'06 Davis-Special Sporters. They use the 55-grain Sisk bullet at 3700 f.-s. and lighter bullets at much higher velocities. Both use graphite base lubricant without any signs of erosion as yet after 1100 rounds in Jewett's Remington barrel and 1500 rounds in each of Davis' Remington barrels. Davis uses Acheson Colloid graphite (Oildag) in beeswax and paraffin. He melts the lubricant and dips the bullet bases 1/32-inch deep in it. Both continue to get fine accuracy.

An M-37 Remington barrel is also used on one of the .22-250 Varminters of E. G. Little's which have had previous mention in these columns. The 440-Weaver was zeroed for the 40-grain Sisk bullet at 4400 f.-s. and all groups stayed in the 10-ring at 50, 100 and 200 yards without change. When the J. B. Smith S-8 50-grain loads were tried they landed in the X-ring with the same setting. Little then shortened the Remington barrel and turned it down to a medium weight without impairing the accuracy "an iota". These heavy target barrels designed for the .22 Long Rifle have a 16-inch twist. Little tried the 40-grain load on wild burros which he thinks are tougher than mule deer. It killed well when the bullet was carefully placed.

The Gebby-Smith .22-Varminter combination is fulfilling every expectation, even the most hopeful. Reports from everywhere praise its

fine accuracy, flat trajectory and flexibility in which it is superior to the .220 Swift. The new 50-grain S-8 bullets made for J. B. Smith are giving excellent results on light game and targets. There will soon be a tougher bullet of this shape for heavy game. Primarily the .22 Varminter is a varmint, small-game and target cartridge. It gives fine accuracy at low or high or medium velocities. The usual load is 36 grains 4064 or 37 grains of 4320, but Smith has used much heavier charges to prove his standard loads have an ample safety margin.

Carleton Hays, who was a Swift and Lovell fan, tried his friend's Varminter, and got one from J. E. Gebby. Like the others it shot into one hole at 100 yards with the J. B. Smith loads. Gebby delivered our M-1917 Varminter before Perry, but we had no time to try it until yesterday, using Smith loads. Our Jordan tools have not arrived as yet, and we are sparing with our small supply of custom loads. We shot enough to accept all stories of its marvelous accuracy and consistency. Our biggest group was 1.60 inches per ten shots, and that had all three of our Smith loads in it, including low, medium and high with three different bullets, propellants and velocities. The individual 4-shot and 5-shot groups with each separate load ranged from an even inch down to 0.80 inch. It tended to "pile 'em up" in one hole until the shooter pulled or called one, and that was never far out. Looks like the Swift designers missed a bet when they tried to improve on this original Wotkins design, made by necking down the .250-Savage case. Another advantage: its base fits a .30-'06 bolt face, extractor and shell holder exactly.

H. P. White Co., Ordnance Engineers, 1958 East 90th Street, Cleveland, Ohio, have an elaborate laboratory with equipment adapted for experimental research work. Mr. White is the chief engineer and B. D. Munhall is the ballistician. Their aims are rather broad but all related to the study of ballistics. They are now working out some novel ideas on chronographs. They have a large gun and cartridge collection and a comprehensive library. We purchased a couple thousand form cards from them for indexing and classifying our cartridge collection, after we decided to adopt their practical system.

Graphite Wads, kneaded by hand and pressed flat between cardboards with a roller or Squeegee, were tried in the .30-'06 and .270 Winchester by B. Julian of Omak, Washington. He got fine accuracy with his thick wads behind W.T.&C.W. bullets, no pressure signs and no apparent erosion. Julian's wads were very thick (.075 inch) or thicker than would seem advisable. He used Acheson's Grade 38 graphite hand mixed in equal parts with R.P.M. Wheel Bearing Grease (Standard Oil Co.) which has a high melting point (375° to 400°). When hand-worked to a putty-like consistency the hottest direct sun beams did not make it too soft to handle. In our own opinion colloidal graphite is the safest to use in bullet lubricants because in its Oildag or Castorad form it can be most conveniently and thoroughly mixed with the other ingredients and its very fine particles would be less potentially erosive on the rifle throat than would any coarser graphite.

Winchester Factory .218 Bee cartridge and M-65 rifle worked well for Herbert Wilkins, of Fairfax, Vermont. He felt some dissatisfaction over the vulnerable peep sight and with the hard trigger-pull on his rifle, which he praises and calls a "pippin". Up to the first of August he had killed hawks, chucks and a stray cat with it. Longest shot, 120 yards; most others 90 to 100 yards. Fine killing effect at these ranges on such pests.

TRADE DOPE

Detroit Reloading Tools, 7332 St. Paul, now have blueprints and information, at 50 cents per copy, on how to construct and install a battery of 50 targets which may be con-

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Any gun worth cleaning at all deserves PROPER cleaning.

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Rex Hunters Tasteless Dog Powders in sanitary capsules provide blood tonic elements and a reconstructive for dogs of all breeds, any age. Given regularly on Saturday each week they act to quickly relieve disorders due to lack of proper conditioning that cause scratching, loose coat, listlessness, poor appetite, bad breath, skin irritations, and a host of other ills. They work to make your pet happier, healthier and more contented.

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The new W-M STRONG JACKET bullet for big game use in Swift and Varminter. Used only in our loads.

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trolled by a single operator or turned as a unit for the timed stages of pistol matches. The information which goes with each blueprint estimates the amount of material required, including hardware, lumber and posts, all of a simple nature and easily procured. This Detroit (Mich.) gunsmithing firm is best known as makers of lubricants and tools for handloaders.

Fore Sight Protector made of soft or flexible black rubber costs one dollar from the "Far Sight Protector Co.," 40 Main Street, Newaygo, Michigan. It is long enough to hold well in view of the natural elastic grip of its material. Being soft it cannot scratch the finish or chip the bead material. A barrel hole at the bottom will fit any single barrel without full-length stock or full-length magazine tube. A clearance opening above the barrel hole accommodates the sight-base and blade. Open only at the entry end, it keeps out snow, mud and dust. Because it is soft it is easy to carry in kit or pocket.

New Model 52 Sporter has supplanted the former 52 Winchester Sporter. Barrel has been tapered and shortened to 24 inches and the weight, with sporting sling, has been reduced to 7 1/4 pounds. The principal improvement, however, is the adoption of the stronger new type, 52-Marksman receiver and action. This receiver has thicker metal, including a higher backwall in the well and larger camming shoulders. This action has a quicker lock-time (more than 300% faster than the original 52W) a better trigger mechanism, including a pull adjustable in weight and engagement, and a thumb-lever safety on the right side of the bridge. The new sporter stock has a black fore-end tip and grip cap and a checkered steel butt. The dimensions are 13 1/2 x 19 1/6 x 2 1/2 inches.

Scope Squares in two parts may be had for clamping on the scope tube to provide a vertical flat and a horizontal flat. They are held together by four small screws. We think six or eight would be an improvement. While fitting it the top flat is levelled for even contact of the elevation screw and the side flat is adjusted the same for the windage screw. Under Lyman target mounts on the 15X Super-Targetspot we found we could get a total elevation adjustment of 75 minutes, and 60 minutes from side to side. This is ample providing a base of the proper height is used.

On our rifle the normal rear base was too

high when we tried the Scope Square because of the clamp flange which limited the movement. Result: lowest impact was 3 minutes too high at 100 yards. Besides using a lower scope block, another possible solution would be to file away the flange in the middle where it contacts the ring of the mount. This may be the reason for leaving out the clamping screws in the middle of the scope square, which is more than two inches long. They are made for target-type mounts and 3/4-inch tubes. Price, \$3.00. Purpose: to insure straight-line adjustments. Maker: William Hoyer, 52 Benita Avenue, Youngstown, Ohio.

Lou Smith of Ithaca fame (city and gun) says that nine years ago Joe Heistand appeared at the Ithaca tent at the Grand American Handicap and bought an Ithaca single-barrel trap gun, which he used so effectively at the great Vandalia meet this year. Following a straight run of 150 targets on September 4, Joe missed one the next day. At that point his consecutive run on registered targets was 1179, a new world's record by a wide margin.

Sub-Zero Gun Oil which functions efficiently as a fine oil and action lubricant at 30 degrees below zero, is offered by Hawley Products, of Milwaukee, Wisconsin.

Chemical Gun Cleaner in large-size bottles is economical in dozen lots, figuring a nickel more than two-bits per eight ounces. We have found it to be very effective as a bore cleaner. It is clear and transparent. Clear pure sperm oil is also sold in 8-ounce bottles at the same price of \$3.60 per dozen. Cases can be assorted or made up as desired with both the cleaner and the oil providing a full dozen bottles are purchased. Order from: The Bedford Company, New London, Ohio.

Freeland's Scope Stands match B. & L. scopes perfectly in all models and both colors. Al now has one for the new 65 mm. B. & L. scope in 15-inch height which matches that scope. It costs \$7.50. He also has improved his old stand by giving it greater leg spread, making the saddle offset and quickly detachable for convenience, as it now can be left on the scope in the kit. This standard model is \$6.50. He also has a Pistol Team Spotting stand at \$16.00, and leg extensions for all his 15-inch stands can be obtained to convert any of them for sitting or standing positions. We have tried several models and all of them have been fine in appearance and very satisfactory in performance.

Flexible Draw Polishers and muzzle-crowning balls for rifle barrels can now be obtained from Frank Mittelmeier. See his ad. The draw polishers fit the hand and have an inner corrugated concave to fit the curve of round barrels. Being flexible they adapt themselves to fit any barrel size. There is one of a red abrasive for polishing and one of a finer blue abrasive for the final lap finish so necessary for a fine bluing job. The use of these two draw polishers will obviate the stroke marks commonly left by the common stick polisher. They can be used with or without a lathe, and on flat surfaces also.

The brass crowning balls, in diameters of 7/16, 9/16 and 11/16 inch, are equipped with 1-inch steel shanks to fit any handy drill or brace, the shank being 3/16 inch in diameter. Successfully using three crowning balls with oil and abrasive powder will insure a true muzzle and a smooth job. There is also a flat abrasive tip on an 1/4-inch shank to fit the collets of small power-grinders and drills for getting that engine-turned effect on polished steel surfaces. This Engine Turning Tool obviates the use of abrasives and it is used dry. There are also two hard felt tips and three rubber tips for use with auxiliary abrasives, complete at 75 cents. The set of two draw polishers is \$1.50. The set of three muzzle crowners is \$2.00. Many new items are coming, including a Barrel Draw File made like the Draw Polishers to eliminate the flat stroke marks left

by draw filing. Write Mittermeier for his new pamphlet on gunsmithing supplies.

Selective Shooting Equipment is the name of the latest catalog received from Wisler Western Targets. It has 56 pages in the popular 6" x 9" size. It is new enough to include the 65-mm. B. & L. scope, the offset Freeland stand and mention of the latest N. R. A. "Expert" target. Careful selection of products is indicated by the listing of such choice items as: all N. R. A. official targets, the Wisler "Rifle Score Book", the Arnold sling-tension equalizer, the thumb-screw sling keeper, the Wilder cushion sling pad, the Justrite carbide lamp, the Freeland scope stands, Parker Hale, Belding & Mull and Tripak cleaning outfits, 10X shooting coats and leather gun cases, the Badger shooting kit, B. & M. and Pacific powder measures, Wesnitzer special tools for properly preparing cartridge cases, Merit iris apertures, King handgun sights, X-ring bullet traps, Gunslick lubricants, V-ring solvent, Rig preservative, Ray Ban goggles, Hinson leather cases, Cramer bullet moulds, Pachmayer "No Slip" buttplates and the new "Dickerson's Spur-Grip" adapter for the standard Colt and S. & W. stocks. The very latest Wisler equipment is their waterproof Scuff Proof "Kit 22", a fine small-bore shooters' kit, in black or brown color, at \$9.75.

No. 31 Stoeger Gun Catalog and Handbook has arrived just in time to get under the wire. This is the Jubilee number which we announced a couple of months ago, issued in expanded form in honor of the New York World's Fair of 1939. This is one of the biggest gun catalogs I have seen, with more than 500 pages (10 1/2 x 8 inches) devoted to shooters' equipment, and all illustrated.

There are 75 pages for gunsmiths; 50 of these on gunsmithing machines, tools and gauges. 15 pages of outting equipment and 8 of cameras. 90 pages of gun parts. 15 pages for reloaders. 14 pages of ballistics and 14 more which picture and list cartridges of many makes, domestic and foreign. 16 pages on telescope sights and binoculars with 20 more of metallic sights. 7 pages of cleaning equipment and 2 of gun cabinets. 20 pages of holsters, gun cases and target-shooters' supplies. 4 pages of shooting books and 8 pages of medals and trophies. 12 pages of air rifles and air pistols. 47 pages are devoted to handguns and 115 to shoulder arms.

Other pages are devoted to police equipment (including bullet-proof vests), old arms and armor, cross-bows and the most modern auto-loader. Histories of such prominent arms makers as Winchester, Remington, Savage, Colt, Smith & Wesson and Ithaca are given several pages. There are also introductions to the re-loading and handgun sections, respectively, by Phil Sharpe and Charley Askins, Jr. All in all it is a big dollar's worth, including as it does, English and German makes of arms and ammunition and most American brands.

.410-Bore Rifled Slugs in Super Speed loads are now offered by Winchester for short-range deer hunting. These rifled slugs have diagonal grooves and vanes along their sides which cause them to spin in flight, and consequently they are more accurate than round-ball loads. These slug loads are distinguished by a star in the visible nose of the ball. They are loaded in 2 1/2-inch cases to fit any .410-bore arm. The ball weighs 93-grains and its hollow base contains 3-grains weight of paraffin. We have found in shooting such loads that the wax stays in the base up to impact and often after hitting. The expected accuracy is 3 to 5 inches extreme spread at 50 yards. The ballistics are:

Muzzle	1470 f.-s.	460 ft.-lbs.
50 yds.	1180 f.-s.	295 ft.-lbs.
100 yds.	1030 f.-s.	225 ft.-lbs.

Remington Ammunition Catalog is now available from their advertising department in Bridgeport. It is a very desirable one for all



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A beauty! The kind of a gun case everyone wants—at the new low price of \$2.50 to \$2.90. Popular demand makes this new price possible.

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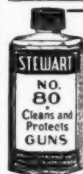
hide handle. As beautiful as it's efficient. Our guarantee says you must be satisfied or case may be returned.

HOW TO ORDER: Made to fit all shot guns and rifles that do not exceed 12" circumference at breech, 4" at muzzle—

Guns 41 to 43 inches long.....	\$2.50
Guns 44 to 46 1/2 inches long.....	2.70
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shooters. R. A. shot loads are described and classified, all shells being illustrated full size. Center-fire cartridges are likewise classified as to game purpose and another chart lists those whose cases and bullets will interchange in a given caliber. There is also a table of recommended shot sizes and four pages of ballistics.

Winchester Shells and Cartridges is the title of a new catalog and handbook on W.R.A. ammunition for every kind of shooting with shotguns, rifles, revolvers and pistols. There are 44 pages (6 x 9 inches) of useful information, with ballistics on all current loads and calibers. Of particular interest is the rifle-sighting dope in the range tables for all Winchester metallics which show the mid-range height of the bullet's path above the line of sight at intermediate ranges, to tell the hunter how much he should hold under at short range or above the mark at ranges beyond the zero point. This is in addition to regular ballistic tables and charted trajectory curves. Obtainable from their advertising department in New Haven.

Important New List (No. 3) of cartridges for collectors has been issued by Lt. Col. Calvin Goddard, 3533 Quebec St., N. W., Washington, D. C., to supplant his previous lists. Many items listed before are no longer available and a great many more new ones have become available. The new list contains 16 major groupings and many hundreds of individual items, all with serial numbers, descriptions and prices. It comprises 24 mimeographed pages (8 1/2 x 15 inches), the first two dealing with general information and explanations concerning the 22 pages of itemized listings.

LETTERS

Bullets and Sights—I am going to order one of the new Model-70 Winchester soon, probably in .250 caliber. As I expect to hand-load for this rifle I would like your advice about lengthening the magazine. Would it need to be lengthened for any load using the 60, 86, 87 or 100-grain bullets? And what would be the greatest overall length with any of these or other bullets of such weight likely to be brought out? Or, in other words, how much longer should the magazine be made if any? I do not care to use the 117-grain bullet.

According to Mr. W. F. Vickery (Oct. 1935 issue) the 60-grain bullet gives exceptional accuracy in tight barrels (.256 inch or smaller

250 PROOFS that X-RING Centrifugal BULLET TRAPS are SAFE!

Equipment chosen for SCHOOLS and MILITARY TARGET PRACTICE must be safe. Here's why experienced range directors demand X-RING.

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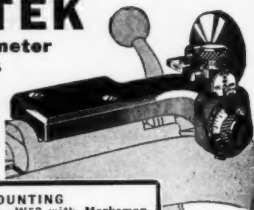
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groove diameter). I would like to have your opinion in regard to this.

If a rifleman using a certain rifle of this caliber and Fecker 8X 1 1/4-inch scope shoots average 10-shot groups of 3 1/2 inches at 200 yards, what size groups would you expect the same man to make using the same rifle and load and Weaver 29-S scope with cross hair? —N. A. B.

Answer: Your overall length with the .250 Savage bullets would be the same for the 60-grain and 100-grain and, if anything, slightly shorter with the 86-grain soft-point flat-nose. For any of these the standard over all length is less than 2.90 inches which the magazine would handle. Special bullets such as gas-

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check bullets and the 117-grain bullet which is unsuitable would, however, increase the overall length, but I note you are not interested in using them.

In the .25 Remington, .250 Savage and .257 Roberts we have gotten excellent accuracy with the 60-grain .25-20 Hi-Speed bullet at high velocities or with maximum loads in each cartridge.

In getting groups with different sights much depends on the individual marksman and his vision. I would give the fine target scope about 1/2 minute of angle on the coarse cross hair or wide post of a hunting scope at 200 yards. Some shooters, however, would not do as well as that and others would do as well with the 29-S Weaver as with the 8X Fecker.

Wants 100-Grain Bullets Compared—I wonder if you can give me velocities for the .270 Winchester at 200 yards using Winchester 100-grain bullets and Western Tool & Copper 100-grain bullets—both at 3200 f.-s. muzzle velocity (approximately). What is the deflection with these two bullets in 20-mile wind (3 o'clock)?

The muzzle velocity, or the 200-yard velocity, is not the important thing to me. I want to get some idea of the relative ballistic efficiency.—F. A. S.

Answer: When the bullet diameter is the same and the weight is the same, the sectional density is the same. For the two 100-grain bullets in .270 caliber the sectional density would be about .235. Over a range as short as 200 yards the sectional density is more important than the nose shape in making important difference in ballistic efficiency. Even at 300 yards the trajectory of all bullets and calibers and weights having approximately the same muzzle velocity are practically the same. I would say that between the Western Tool & Copper Works and the Winchester bullets in the .270 Winchester caliber, both of which are pointed and both of which weigh 100 grains, you would have

to go out to 500 or 600 yards to get any appreciable difference.

To get the ballistic coefficient you simply divide the sectional density by the form factor. The form factor of any bullet is not a definite thing, but is what is given it as a relative rating by the individual who is comparing bullets. I would suggest, however, that you do this in determining it for yourself. If the W. T. & C. W. 100-grain bullet has a nose shape or ogive curve of 6 calibers, give it a rating of .55. If it has an 8-caliber head give it a rating of .49, which is the rating for the nose shape of the 130-grain Winchester bullet in the same caliber. The 100-grain bullet of Winchester make has a 10-caliber head and a form factor of .44. The difference between the two bullets will be merely the difference in the quotient obtained by dividing .235 by .44 in one case and by .49 in the other case, I feel sure, although the W. T. & C. W. bullets may possibly only have a 6-caliber ogive and then you would have to divide by .55 (form factor) for it.

The above ratings hold true for your velocity of 3200 f.-s., which is just about the average velocity over 200 yards, that of the Winchester 100-grain bullet being about 3250 f.-s. average velocity for the distance.

The wind deflection is supposed to be about 3 inches at 200 yards for your 20-mile cross wind, and in one test I shot 3.35 inches under approximate conditions. I find it very uncertain and indefinite, however, to exactly judge the direction and velocity of the wind and therefore consider as practical only very approximate estimates. In other words, under the conditions of your problem I would not expect any practical difference between the two bullets, because considered alone I would probably reach the same estimate for either of them. However, if they were fired side by side at the same chronograph velocity a difference in practical or actual wind deflection might be noted at 200 yards in a 20-mile cross wind.

.30-'06 Russian Not Safe—I am going to purchase a .30-'06 rifle for hunting and sporting use. As I can put only a limited amount of cash into it I am asking you for advice in the matter. What is necessary to convert the U. S. Model 1917 Enfield into a sporting arm? What would be the objections for sporting use as issued by the D. C. M.?

In your opinion which would be the better buy? The 7.62 mm. Russian rifle already converted to .30-'06 sporting carbine as sold by the A. and N. Supply Co. or the U. S. Model 1917 Enfield rifle as issued to N. R. A. members through the D. C. M.?—W. F.

Answer: I could not recommend the 7.62-mm. Russian rifle when altered to .30-'06 caliber, because such rifles are positively unsafe. Many of them are in use and have been successfully serving their owners, but too many others have been shattered by even the old type Service loads with the 150-grain bullets at 2700 f.-s. See the reprint on the Russian rifle.

Therefore, the very strong and rugged M-1917 rifle would be infinitely better in the .30-'06 caliber, although the Russian rifle is a practical one in 7.62-mm. Russian caliber, which is a good cartridge for deer when loaded with Remington bronze-point HiSpeed bullets or U. S. C. Co. hollow-copper-point bullets.

On the M-1917 rifle you will find the military peep sight very good and if you can get it zeroed there is no reason why you should not use it for practical sporting purposes or on the rifle range. The front sight, I believe, can be improved by sawing off or filing off the guard and reshaping the front sight. Perhaps you will find it practical as it is, although I think the guard, while an excellent protection, will slow up aim somewhat. The stock can be dressed down or altered to suit your taste. About the best improvement would be to put in a higher comb for scope use eventually, although it may be found practical for the military sight as is. Also later you could fit a block of walnut, by dovetailing and gluing, to the pistol grip for reshaping into a better one to suit your own taste.



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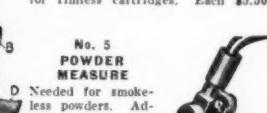
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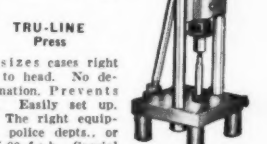
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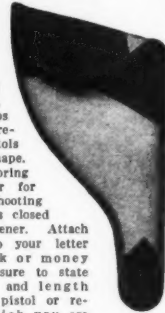
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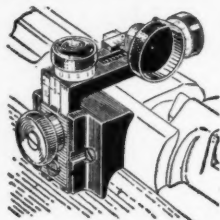
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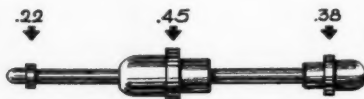


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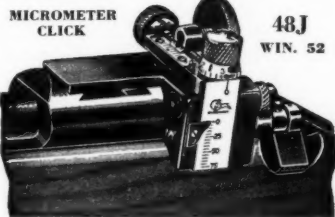
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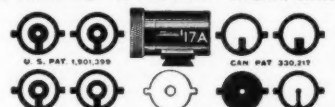


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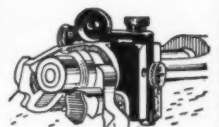
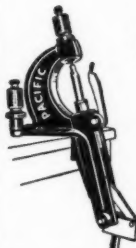
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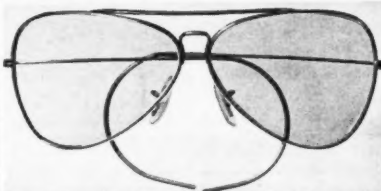
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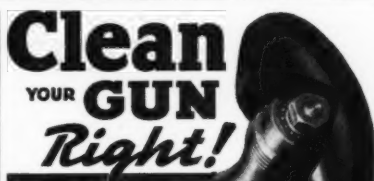
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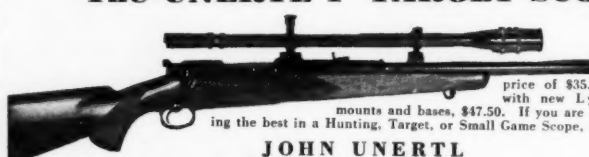
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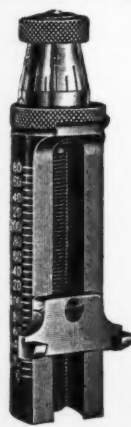
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front, excellent inside, good outside, 60 Rustless,
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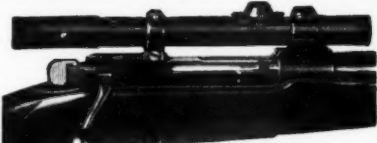
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SUPER Grade Winchester Swift, perfect, \$55.00. Winchester Standard \$2, new, \$40.00. WANT—70 Hornet, Lovell. T. C. Stromberg, Grandfield, Okla. 11-38

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Bargain prices on new guns, revolvers, and rifles. Trade your old gun for a new one! (Time payments arranged.) Unusually liberal allowance or TOP prices for rifles, guns, binoculars, cameras, etc. Tell us what you have; what you want! All merchandise sent prepaid. Est. 1896.

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THIS SPACE FOR SALE

A display ad of this size measures 14 agate lines or one inch. It costs \$14.70 per issue if less than six insertions are used within one year; \$13.30 per issue for six or more insertions in a year; only \$11.90 per month for twelve consecutive insertions. THE AMERICAN RIFLEMAN circulation is now well over 60,000 copies monthly. We will be glad to help you in writing "copy," making "lay-outs," etc. No charge, of course. What is your product?

COLT New Service and Smith & Wesson 45, excellent, \$20.00, \$17.50. 6 m.m. Lee Navy, \$15.00. Eight power Zeiss binoculars, \$35.00. Squeezee 6 in. Luger \$25.00. Colt Single action, \$15.00 to \$20.00. Leg-O-Mutton gun cases, \$2.50 to \$5.00. Remodeled Sporters, \$10.00 to \$35.00. WANT—Double rifles and combinations guns. Irving Auto Company, Biddeford, Maine. 11-38

L. C. SMITH Double, 12 Field, 3 inch shell, new Monte Carlo stock, Beaver Forearm, very good, \$30.00. .45 D.A. Colt, Model 1911, restocked, very good, \$18.00. Lyle Miller, Richland Center, Wisconsin. 11-38

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WHAT IS ASSOCIATE MEMBERSHIP?



Associate membership in the N. R. A costs but \$2.00 a year and is open to the relatives of Life and Annual Members living under the same roof. Here is an opportunity for every N. R. A. member to further help support the good work of his Association by enrolling as an Associate member some member of his immediate family.

APPLICATION FOR ASSOCIATE MEMBERSHIP

NATIONAL RIFLE ASSOCIATION

Barr Building
Washington, D. C.

GENTLEMEN:

I believe in the aims and purposes of the N. R. A. and desire to further help support the good work by enrolling the following named member of my family as an active *Associate Member.

Attached is remittance of \$2.00 for which please send appropriate membership credentials together with a copy of the latest price list to my.....at the address below: (Relationship)

☐ Check here and attach \$3 if Annual Membership is desired.

The Associate Member { NAME.....
STREET.....
CITY..... STATE.....

Endorsed as a U. S. citizen over 18 and application forwarded by:

NAME..... ☐ Life Member
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CITY..... STATE.....

* ASSOCIATE MEMBERS enjoy all the benefits of Annual Membership except that they do not receive THE AMERICAN RIFLEMAN MAGAZINE.

GENERAL CONDITIONS

1938-1939 N. R. A. HOME RANGE GALLERY MATCHES

Eligibility—All classes of N. R. A. members, including members of affiliated clubs in good standing, are eligible to compete in the matches in this program. Complete rules are sent to all competitors with their targets.

How to enter—Use the entry blank on the bottom of this page. Entries are accepted for all matches until the 15th of the month in which they are scheduled to be fired.

Certification—Firing of all match targets must be witnessed by two persons selected by the competitor, who will certify that all match conditions have been followed. In addition, the N. R. A. reserves the right to require any competitor making abnormally high scores to fire substantiating scores in the presence of an N. R. A. witness at some later date.

Award of medals—Unless otherwise provided in the conditions of the match, medals will be awarded in this program according to the following schedules:

Schedule "A"—75 Competitors or more—

- 1 Solid Gold Medal
- 1 Sterling Silver Medal
- 8 Bronze Medals

Schedule "B"—50 to 74 Competitors—

- 1 Gold Filled Medal
- 1 Sterling Silver Medal
- 8 Bronze Medals

Schedule "C"—25 to 49 Competitors—

- 1 Gold Filled Medal
- 1 Sterling Silver Medal
- 5 Bronze Medals

Schedule "D"—10 to 24 Competitors—

- 1 Gold Filled Medal
- 1 Sterling Silver Medal
- 3 Bronze Medals

Note: In any case of less than 10 entries the event will be cancelled and entry fees refunded.

The number of medals awarded in special classes in all classified matches will be determined by the number of shooters entered in that class, according to the above schedule.

State Awards—In addition to the above medal schedule, a bronze State Champion medal will be awarded in all matches to the high competitor from each state having 5 or more entries.

Tyro—A tyro in postal competition (rifle or pistol, as the case may be) is a shooter who has never won a trophy or place medal presented in open matches conducted or registered by the National Rifle Association, the United States Revolver Association, any state rifle association, the Army, the Navy, the Marine Corps or any National Guard organization. Tyro status will not be affected by the winning of state awards and percentage medals in N. R. A. home range matches, or awards in any junior tyro, restricted or ladies' match.

Return of Targets—Fired targets and Firing Certificate must be returned postmarked not later than the 25th of the month that event is scheduled to be fired or they will not be considered. *Each match must be completed on the day it is started.*

USE THIS BLANK TO ENTER N. R. A. GALLERY MATCHES

POSTAL MATCH DIVISION,
National Rifle Association,
Barr Building,
Washington, D. C.

Date.....

GENTLEMEN:

Please enter me in the 1938-39 N. R. A. Gallery Home Range Matches which I have listed below. I want to enter Matches Numbered

I enclose remittance of \$..... to cover my entrance fees at \$1.00 per match. (Matches 5, 6, 13 and 17 are 50¢ each; matches 16 and 22 are 25¢).

- ☐ LIFE MEMBER
- ☐ ANNUAL MEMBER
- ☐ JUNIOR MEMBER
- ☐ CLUB MEMBER

My Name is.....

Address.....

City..... State.....

I have (have not) made previous entries in the 1938-1939 N. R. A. Home Range Gallery Matches.

AGAIN WE BRING YOU THIS "3-IN-1" BARGAIN—

To help us win new friends we usually begin our Annual Membership drive by offering some outstanding outdoor magazine in combination with N. R. A. Membership, which includes a year's subscription to *The American Rifleman*, and in fairness to present subscribers we are advertising the good news first in the *Rifleman*.

So this month, and for a limited time—we bring you once again—this popular "3-in-1" offer—a year's membership in the N. R. A., a twelve-month subscription to the *American Rifleman*, plus the next twelve issues of *Field and Stream*—all for only \$3.50. (In Canada and Foreign, \$4.50.)

Field and Stream, you will remember, is the magazine we offered in combination with N. R. A. membership a year ago. It is one of the better known monthlies of special interest to gun lovers because of its Arms and Ammunition Department, conducted by Bob Nichols, well-known firearms writer and editor.

Your N. R. A. Membership, of course, will entitle you to all the services of the Association; unbiased information and advice on any subject pertaining to firearms whenever you need it, the opportunity to win medals at home while practicing with rifle or pistol, the privilege of buying the Springfield or Enfield and government ammunition thru the War Department, the monthly visits of the good old *Rifleman*. In addition your support of the N. R. A. now as always is the best insurance against the passage of further legislation restricting the ownership and use of guns by honest citizens.

Because this offer is necessarily limited and may be withdrawn at any time, we urge you to act immediately. Clip the coupon below and join the N. R. A. or renew your membership this month. Even though you have recently renewed, you may accept this offer and have your membership-subscription extended another year.

Remember our acceptance of subscriptions to *Field and Stream* is positively limited to this one year Annual Membership offer, therefore remittance of \$3.50 (\$4.50 if Foreign) must accompany the coupon below.



NEXT MONTH—

SOLVE the "what to give" problem at Christmas time with gift memberships placed under this popular "3-in-1" plan. Send us a list of the Sportsmen friends you wish to remember together with appropriate remittance and we will mail a gift card, bearing your name, to each recipient, each card timed to arrive in the Christmas mails.

USE THIS COUPON FOR THE "3 - IN - 1" OFFER

Membership Division, Date _____
NATIONAL RIFLE ASSOCIATION,
816 Barr Building,
Washington, D. C.

GENTLEMEN:

I wish to accept your special "3-in-1" offer and I enclose my remittance of \$3.50 to cover a year's membership in the National Rifle Association and a 12-month subscription to *The American Rifleman* and to *Field and Stream*.

My Name _____

Address _____

City _____ State _____

Please check the appropriate squares below:

I am at present a subscriber to *Field and Stream*

☐ Yes

☐ No

I am now a member of the N. R. A.

☐ Yes

☐ No

ENDORSEMENT

(Requested of all new members of the N. R. A.)

Endorsed by _____

Endorser's address _____

STATUS OF ENDORSER

☐ Notary

☐ N. R. A.
Member

☐ Public
Official

☐ Doctor or
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The future of American game rests with sportsmen like yourself who do their part in making the future bright . . . by observing the rules of wise conservation.

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You Can Lay 'em In with Xpert!

288.06

Average for 16 Matches!
Milton Klotz of the Zeppelin Rifle Club, Akron, Ohio, had a season average of 288.06 for the 16 matches of the Summit County, Ohio, Rifle League. His winning average was compiled with

Xpert

KLOTZ



BUCHANAN

OVERBAUGH



XPert .22's will add extra points to your scores during the indoor matches this season, without adding to your expense. The consistently high scores and top-ranking averages of Milton Klotz, Akron, O., Franklin Thompson, Pittsburgh, Pa., and the Purdue University Pistol Team, show the accuracy that is built into Western XPert smokeless .22's.

Milton Klotz led the Summit County Rifle League last season with the high individual average of 288.06 for the 16 shoulder-to-shoulder, three-position matches, using XPert in every match.

Franklin Thompson's high individual average of 192.50 with XPert, for 14 shoulder-to-shoulder, four-position, 50-foot matches, topped a large field in the Pittsburgh and Suburban Rifle League.

The string of victories of the Purdue University Pistol Team was another triumph for XPert. The team won all 15 of its collegiate matches, also the Indiana State Pistol Team Championship, score: 436, and the Field Artillery R.O.T.C. Championship, score: 1372.

Purdue University Pistol Team. *Left to right:* Back row: W. B. Wolverton, D. R. Faut, R. G. Becker, K. N. Keenring, M. A. Ahlvin, T. J. Suneson. Center row: G. C. Foxworthy, F. N. Ferguson, E. N. Gossett, K. J. Powell, E. W. Little. Front row: L. K. Schoon, P. B. Lewis, J. N. Newhall, J. W. Greiner, Captain Wm. L. Kay, F. A., Team Coach. Not in picture: F. E. Gaiser.

PURDUE PISTOL TEAM



In the Southwest International Pistol Matches, San Diego, Cal., August 5-7, J. D. Buchanan of Los Angeles won the .22 National Course event with XPert, score: 290. He also won the Grand Aggregate with Western, score: 1507. Sgt. E. G. Fleming, San Diego Police Dept., won the .38 Slow Fire, 50-yards, with Western, score: 185.

James H. Overbaugh of the New York State Conservation Dept. won 9 of the 13 individual open events with Western in the annual Buffalo and Niagara Frontier Pistol Matches, August 12-13, including the .22 Aggregate with XPert, score: 840, and the Grand Aggregate, score: 1660, using Western Mid-Range in the center-fire matches.

Let us send you the Western Ammunition Handbook giving full particulars of all Western cartridges and shotshells.

WESTERN CARTRIDGE CO.

Dept. K-25, East Alton, Ill.



192.50

Average for 14 Matches!
Franklin Thompson of the Sheridan Elks Rifle Team which finished first in the Pittsburgh-Suburban Rifle League was high individual for the league season. His average of 192.50 for 14 matches was made with

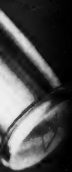
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